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TABLES FOR ESTIMATING ROTARY WING PERFORMANCE AT HIGH FORWARD SPEEDS

by Watson H. Tanner

Prepared under Contract No. NASw-745 *by*
UNITED AIRCRAFT CORPORATION
Stratford, Conn.
for

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SUMMARY

Charts for estimating rotary wing performance at high forward speeds have been published in NASA CR-114. As a supplement to this, work tables are presented herein which include the information presented in CR-114 plus additional information which was not included. These data apply to hinged rectangular rotor blades with geometric twists of -8, -4, and 0 degrees and include a wide variation in rotor advance ratio, from 0.25 to 1.4, and a range of advancing tip Mach numbers from 0.7 to 0.9.

Author

INTRODUCTION

Charts for estimating rotary wing performance at high forward speeds were published in reference 1. These charts are applicable to rotors having rectangular blades with a linear twist of -8, -4, and 0 degrees. The parameters presented in reference 1 were C'_L/σ, C'_D/σ, C_Q/σ, a_1, a_c, and $\theta_{.75R}$. While these parameters provide sufficient information for most performance evaluations, some specific applications may require more information about the flapping motion, or the basic information may be desired in a different form than is presented in reference 1. Therefore tables of the calculated values of $\theta_{.75R}$, λ,

$C'_{L/\sigma}$, $C'_{D/\sigma}$, $C_{Q/\sigma}$, $bC_{Q,D/\sigma}$, α_c, a_0, a_1, a_2, a_3, b_1, b_2, and b_3 are presented. These data are for a range of rotor advance ratios from 0.25 to 1.4 and a range of advancing tip Mach numbers from 0.7 to 0.9.

This information was prepared at the Sikorsky Aircraft Division of United Aircraft Corporation under sponsorship and with the financial assistance of the National Aeronautics and Space Administration.

SYMBOLS

a	speed of sound, ft/sec
a_0	constant term of Fourier series that expresses blade flapping; hence, rotor coning angle, deg
a_n	components of longitudinal flapping with respect to a plane normal to the control axis - constant coefficient of the cosine terms in the Fourier series expressing flapping angle β with respect to a plane normal to the control axis, deg
b	number of blades
b_n	components of lateral flapping with respect to the control axis - constant coefficient of the sine terms in the Fourier series expressing flapping angle β with respect to a plane normal to the control axis, deg
B	tip loss factor
$bC_{Q,D/\sigma}$	blade stall parameter, see reference 1
$C'_{D/\sigma}$	rotor drag coefficient - solidity ratio; $\dfrac{D}{\sigma \pi R^2 \rho (\Omega R)^2}$
$C'_{L/\sigma}$	rotor lift coefficient - solidity ratio; $\dfrac{L}{\sigma \pi R^2 \rho (\Omega R)^2}$

C_Q/σ	rotor torque coefficient - solidity ratio; $\dfrac{Q}{\sigma \pi R^3 \rho (\Omega R)^2}$
c	blade chord, ft
D	rotor drag, lb
L	rotor lift, lb
$M_{(1.0,90)}$	advancing tip Mach number, $\dfrac{V + \Omega R}{a}$
Q	rotor torque, ft-lb
R	rotor radius measured from the center of rotation, ft
v	induced velocity at rotor, ft/sec
V	forward speed, ft/sec
α_c	rotor angle of attack; angle between axis of no feathering and a plane perpendicular to the flight path, positive when axis is inclined rearward, deg
β	flapping angle at any azimuth position referred to the plane normal to the control axis $\beta = a_0 - a_1 \cos\psi - b_1 \sin\psi - a_2 \cos 2\psi - b_2 \sin 2\psi \cdots - a_n \cos n\psi - b_n \sin n\psi$
$\theta_{.75R}$	blade-section pitch angle at 0.75 radius, deg
θ_1	blade geometric twist; difference between hub and tip pitch angles, positive when tip angle is larger
λ	inflow ratio, $\dfrac{V \sin \alpha_c - v}{\Omega R}$

μ	advance ratio, $\frac{V}{\Omega R}$
ρ	mass density of air, slugs/ft^3
σ	rotor solidity, $\frac{bc}{\pi R}$
ψ	blade azimuth angle measured from downwind position in direction of rotation, deg
Ω	rotor angular velocity, radian/sec

ANALYSIS

Calculations were made using the refined numerical method, as described in reference 2, to prepare tables of theoretical rotor performance for hinged rotor blades. The calculations account for retreating blade stall and compressibility with no small angle assumptions, and for the range of geometrical or design variables described herein.

Rotor Geometry

Planform	Rectangular
Solidity, σ	0.1
Rotor Hub Size	0.1R
Blade Root Pocket Cutout	0.25R
Tip Loss Factor, B	0.97
Lock Number	8.0
Linear Twist, θ_1, deg	-8, -4, 0
Flapping hinge offset	none

The 0.1R hub element makes no force contribution to the calculations, however, airfoil data for a representative D-spar was used for the blade root cutout section (0.1R to 0.25R). Airfoil data obtained from two-dimensional wind-tunnel tests of a production blade specimen using the NACA 0012 airfoil section were used in the analysis.

Variables

Calculations have been made for the following combination of advance ratios and advancing tip Mach numbers. The numbers which appear under the advancing tip Mach number columns are blade twist values.

Advance Ratio	Advancing Tip Mach No., $M_{(1.0,90)}$			
$\mu = V/\Omega R$	0.7	0.8	0.85	0.9
0.25	-8, -4	-8, -4		-8, -4
0.30	-8, -4, 0	-8, -4, 0		-8, -4, 0
0.35	-8, -4	-8, -4		-8, -4
0.40	-8, -4, 0	-8, -4, 0		-8, -4, 0
0.45	-8	-8, -4		-8, -4
0.50		-8, -4, 0		-8, -4, 0
0.55		-4		-4
0.60		-4, 0	0	-4, 0
0.7		-4, 0		-4, 0
0.8		0	0	0
1.0		0	0	0
1.2		0	0	0
1.4		0		0

RESULTS

The results of the calculations of rotor characteristics for a range of advance ratio and advancing tip Mach number for three linear blade twists are presented in tables 1 to 3. The tabulated data include $\theta_{.75R}$, λ , $C'_{L/\sigma}$, $C'_{D/\sigma}$, $C_{Q/\sigma}$, $bC_{Q,D/\sigma}$, α_c , a_0 , a_1 , a_2 , a_3 , b_1 , b_2 , and b_3 for a given advance ratio and advancing tip Mach number. The tables are grouped according to blade twist in the following manner:

Twist	Table Number
-8°	1
-4°	2
0°	3

Solidity Correction

The rotor solidity, σ , chosen in these calculations was 0.1. However, conversion from this solidity to another value is a simple matter, since to a good first order approximation $C'_{L/\sigma}$, $C_{Q/\sigma}$ and a_1 flapping are not affected by a solidity change for a given inflow, collective pitch and advance ratio. There will be changes in rotor angle of attack and $C'_{D/\sigma}$ because of induced effects due to a change in the total lift. For a given value of $C'_{L/\sigma}$ the changes in rotor angle of attack, α_c, and $C'_{D/\sigma}$ can be approximated by the following formulae:

$$\Delta \alpha_c = \frac{1}{2\mu^2} \left(C'_{L/\sigma} \right) \Delta \sigma$$

$$\Delta C'_{D/\sigma} = \frac{1}{2\mu^2} \left(C'_{L/\sigma} \right)^2 \Delta \sigma$$

where, $\Delta \sigma = \sigma_{desired} - \sigma_{charted}$

The derivation of these equations and an example problem in applying the corrections are presented in reference 1.

CONCLUDING REMARKS

Lifting-rotor characteristics in forward flight have been computed by numerical means and the essential information was presented in chart form in reference 1.

The tabulated data presented herein include the parameters plotted in the charts plus additional information concerning rotor flapping motion and inflow ratio.

REFERENCES

1. Tanner, Watson H.: Charts for Estimating Rotary Wing Performance in Hover and at High Forward Speeds. NASA CR-114, 1964.

2. Tanner, Watson H.: Generalized Rotor Performance Method. Sikorsky Aircraft Report SER-50309, May 4, 1964.

TABLE 1

CALCULATED CHARACTERISTICS OF A ROTOR HAVING RECTANGULAR BLADES WITH A LINEAR TWIST OF -8°

(a) $\frac{V}{\Omega R} = 0.25$; $M_{(1.0,90°)} = 0.7$

$\theta_{.75R}$, deg	λ	$\frac{C'_L}{\sigma}$	$\frac{C'_D}{\sigma}$	$\frac{C_Q}{\sigma}$	$\frac{bC_{Q,D}}{\sigma}$	α_c, deg	a_0, deg	a_1, deg	a_2, deg	a_3, deg	b_1, deg	b_2, deg	b_3, deg
$\frac{C'_L}{\sigma} = 0.03$													
-4.00	0.0687	0.030265	0.008848	-0.000597	0.00094	17.460	0.619	-0.603	0.005	-0.000	0.19	0.008	-0.000
-0.	0.0168	0.029807	0.003483	0.000548	0.00072	5.245	0.869	0.614	0.068	0.003	0.30	-0.002	0.006
4.00	-0.0333	0.029971	-0.001526	0.001784	0.00070	-6.274	1.251	1.964	0.145	0.009	0.45	-0.010	0.016
8.00	-0.0827	0.029902	-0.007064	0.003225	0.00077	-17.856	1.682	3.205	0.201	0.009	0.58	-0.020	0.019
12.00	-0.1306	0.029905	-0.014049	0.005155	0.00096	-29.784	2.205	4.221	0.237	0.013	0.70	-0.018	0.023
16.00	-0.1763	0.029815	-0.023924	0.008035	0.00133	-42.518	2.874	4.787	0.226	0.011	0.76	-0.011	0.019
$\frac{C'_L}{\sigma} = 0.04$													
-4.00	0.0764	0.040139	0.013761	-0.001582	0.00106	19.788	1.228	-0.314	0.038	0.000	0.38	0.009	0.003
-0.	0.0238	0.040149	0.0064	0.000052	0.00076	7.367	1.434	0.867	0.100	0.004	0.49	0.000	0.009
4.00	-0.0272	0.039552	-0.000873	0.001751	0.00071	-4.428	1.753	2.190	0.171	0.008	0.62	-0.010	0.016
8.00	-0.0763	0.039941	-0.008063	0.003606	0.00078	-15.845	2.212	3.466	0.233	0.011	0.76	-0.018	0.022
12.00	-0.1240	0.039998	-0.016743	0.005963	0.00099	-27.543	2.757	4.528	0.269	0.013	0.88	-0.018	0.025
16.00	-0.1697	0.039549	-0.028157	0.009244	0.00143	-39.903	3.431	5.184	0.261	0.009	0.95	-0.012	0.021
$\frac{C'_L}{\sigma} = 0.05$													
-0.	0.0311	0.050497	0.009805	-0.000616	0.00082	9.599	2.020	1.134	0.132	0.005	0.68	0.001	0.012
4.00	-0.0206	0.049708	0.000598	0.001565	0.00073	-2.458	2.290	2.431	0.202	0.009	0.80	-0.007	0.019
8.00	-0.0699	0.049809	-0.008261	0.003829	0.00081	-13.877	2.727	3.743	0.275	0.018	0.95	-0.007	0.031
12.00	-0.1179	0.049583	-0.018505	0.006582	0.00107	-25.507	3.266	4.811	0.299	0.012	1.06	-0.016	0.027
16.00	-0.1629	0.049745	-0.031520	0.010313	0.00166	-37.370	3.983	5.599	0.304	0.010	1.16	-0.000	0.027
$\frac{C'_L}{\sigma} = 0.06$													
-0.	0.0383	0.060096	0.014129	-0.001407	0.00092	11.733	2.589	1.403	0.164	0.006	0.86	0.001	0.014
4.00	-0.0139	0.059932	0.002923	0.001218	0.00077	-0.444	2.837	2.675	0.232	0.010	0.99	-0.005	0.021
8.00	-0.0635	0.059832	-0.007739	0.003923	0.00088	-11.922	3.252	3.999	0.306	0.019	1.13	-0.005	0.033
12.00	-0.1115	0.059629	-0.019520	0.007076	0.00122	-23.424	3.790	5.117	0.336	0.014	1.25	-0.009	0.031
16.00	-0.1561	0.059785	-0.033772	0.011199	0.00219	-34.916	4.506	6.049	0.361	0.016	1.38	0.022	0.038

TABLE 1. - Continued

CALCULATED CHARACTERISTICS OF A ROTOR HAVING RECTANGULAR BLADES WITH A LINEAR TWIST OF -8°

(a) $\frac{V}{\Omega R} = 0.25$; $M_{(1.0, 90°)} = 0.7$ - Concluded

$\theta_{.75R}$, deg	λ	$\frac{C'_L}{\sigma}$	$\frac{C'_D}{\sigma}$	$\frac{C_Q}{\sigma}$	$\frac{bC_{Q,D}}{\sigma}$	α_c, deg	a_0, deg	a_1, deg	a_2, deg	a_3, deg	b_1, deg	b_2, deg	b_3, deg
$\frac{C'_L}{\sigma} = 0.07$													
0.	0.0464	0.070256	0.019911	-0.002445	0.00109	14.162	3.222	1.704	0.201	0.009	1.05	0.002	0.017
4.00	-0.0068	0.070375	0.006217	0.000700	0.00084	1.677	3.411	2.931	0.264	0.011	1.18	-0.004	0.024
8.00	-0.0571	0.069849	-0.006477	0.003882	0.00099	-9.978	3.776	4.252	0.337	0.019	1.32	-0.002	0.035
12.00	-0.1051	0.069693	-0.019737	0.007431	0.00149	-21.360	4.305	5.435	0.377	0.016	1.45	0.003	0.037
16.00	-0.1548	0.070308	-0.0349	0.0119	0.00384	-29.576	4.844	7.612	0.556	0.017	1.99	0.072	0.073
$\frac{C'_L}{\sigma} = 0.08$													
4.00	0.0001	0.080138	0.010153	0.000070	0.00094	3.724	3.966	3.180	0.291	0.009	1.36	-0.008	0.023
8.00	-0.0510	0.079536	-0.0042	0.003707	0.00115	-8.093	4.285	4.506	0.366	0.016	1.50	-0.002	0.035
12.00	-0.0985	0.079695	-0.019106	0.007655	0.00200	-19.291	4.809	5.782	0.424	0.017	1.68	0.022	0.046
16.00	-0.1417	0.079956	-0.035138	0.012660	0.00466	-30.038	5.480	7.080	0.481	0.010	1.94	0.086	0.058
$\frac{C'_L}{\sigma} = 0.09$													
4.00	0.0080	0.090359	0.015458	-0.000770	0.00120	6.068	4.578	3.489	0.331	0.011	1.55	-0.009	0.027
8.00	-0.0437	0.090242	-0.001377	0.003346	0.00145	-5.940	4.853	4.808	0.408	0.018	1.73	0.013	0.041
12.00	-0.0913	0.089669	-0.0172	0.007731	0.00288	-17.121	5.299	6.217	0.489	0.022	1.96	0.064	0.062
16.00	-0.1330	0.089690	-0.033855	0.013563	0.00875	-27.332	5.880	7.845	0.570	0.003	2.41	0.184	0.085
$\frac{C'_L}{\sigma} = 0.10$													
4.00	0.0173	0.100194	0.022341	-0.001817	0.00199	8.735	5.210	3.939	0.405	0.020	1.79	0.007	0.037
8.00	-0.0362	0.100153	0.002672	0.002844	0.00210	-3.778	5.379	5.160	0.461	0.019	1.98	0.043	0.052
12.00	-0.0829	0.100450	-0.013611	0.007927	0.00625	-14.315	5.790	7.044	0.608	0.015	2.46	0.149	0.090

TABLE 1. - Continued

CALCULATED CHARACTERISTICS OF A ROTOR HAVING RECTANGULAR BLADES WITH A LINEAR TWIST OF -8°

(b) $\frac{V}{\Omega R} = 0.25$; $M_{(1.0,90°)} = 0.8$

$\theta_{.75R}$, deg	λ	$\frac{C'_L}{\sigma}$	$\frac{C'_D}{\sigma}$	$\frac{C_Q}{\sigma}$	$\frac{bC_{Q,D}}{\sigma}$	α_c, deg	a_0, deg	a_1, deg	a_2, deg	a_3, deg	b_1, deg	b_2, deg	b_3, deg
$\frac{C'_L}{\sigma} = 0.03$													
-4.00	0.0685	0.030055	0.008906	-0.000374	0.00092	17.429	0.636	-0.665	0.005	-0.001	0.20	0.009	-0.000
-0.	0.0167	0.030034	0.003608	0.000691	0.00072	5.218	0.924	0.587	0.076	0.006	0.32	-0.003	0.009
4.00	-0.0338	0.030002	-0.001508	0.001890	0.00070	-6.404	1.311	1.953	0.155	0.013	0.48	-0.016	0.019
8.00	-0.0836	0.029942	-0.007146	0.003332	0.00078	-18.095	1.760	3.209	0.209	0.013	0.61	-0.031	0.022
12.00	-0.1320	0.029894	-0.014230	0.005338	0.00101	-30.157	2.300	4.240	0.245	0.016	0.73	-0.028	0.026
16.00	-0.1775	0.029762	-0.024220	0.008442	0.00162	-43.028	2.984	4.817	0.232	0.014	0.80	-0.013	0.022
$\frac{C'_L}{\sigma} = 0.04$													
-4.00	0.0755	0.040009	0.013759	-0.001381	0.00103	19.699	1.252	-0.370	0.039	0.001	0.39	0.008	0.003
-0.	0.0230	0.039785	0.0063	0.000218	0.00075	7.178	1.459	0.826	0.104	0.005	0.50	-0.004	0.010
4.00	-0.0277	0.040009	-0.000867	0.001862	0.00071	-4.524	1.840	2.199	0.186	0.015	0.66	-0.015	0.022
8.00	-0.0775	0.039987	-0.008216	0.003745	0.00080	-16.139	2.294	3.476	0.242	0.014	0.79	-0.029	0.025
12.00	-0.1256	0.039985	-0.017012	0.006212	0.00112	-27.960	2.857	4.557	0.280	0.017	0.92	-0.028	0.028
16.00	-0.1710	0.039927	-0.028711	0.009838	0.00197	-40.296	3.567	5.267	0.275	0.013	1.01	-0.008	0.025
$\frac{C'_L}{\sigma} = 0.05$													
-0.	0.0300	0.050203	0.009604	-0.000446	0.00081	9.348	2.051	1.098	0.137	0.007	0.69	-0.005	0.013
4.00	-0.0215	0.050013	0.000531	0.001692	0.00074	-2.641	2.372	2.443	0.217	0.016	0.84	-0.014	0.024
8.00	-0.0713	0.050011	-0.008527	0.004019	0.00085	-14.216	2.824	3.742	0.276	0.016	0.98	-0.028	0.028
12.00	-0.1193	0.050025	-0.018905	0.006934	0.00133	-25.852	3.394	4.876	0.318	0.019	1.11	-0.023	0.033
16.00	-0.1645	0.049587	-0.031819	0.010984	0.00245	-37.819	4.078	5.720	0.322	0.012	1.24	0.010	0.032
$\frac{C'_L}{\sigma} = 0.06$													
-0.	0.0370	0.060195	0.013892	-0.001247	0.00090	11.422	2.642	1.368	0.165	0.005	0.88	-0.011	0.012
4.00	-0.0152	0.060020	0.002713	0.001379	0.00078	-0.738	2.912	2.687	0.247	0.017	1.02	-0.014	0.026
8.00	-0.0652	0.060012	-0.008093	0.004159	0.00097	-12.311	3.350	4.009	0.310	0.018	1.16	-0.025	0.032
12.00	-0.1134	0.059503	-0.019894	0.007489	0.00165	-23.887	3.884	5.189	0.355	0.018	1.31	-0.011	0.037
16.00	-0.1573	0.059610	-0.033977	0.012059	0.00351	-35.264	4.584	6.249	0.384	0.016	1.50	0.045	0.047

TABLE 1. - Continued

CALCULATED CHARACTERISTICS OF A ROTOR HAVING RECTANGULAR BLADES WITH A LINEAR TWIST OF -8°

(b) $\frac{V}{\Omega R} = 0.25$; $M_{(1.0,90°)} = 0.8$ - Concluded

$\theta_{.75R}$, deg	λ	$\frac{C'_L}{\sigma}$	$\frac{C'_D}{\sigma}$	$\frac{C_Q}{\sigma}$	$\frac{bC_{Q,D}}{\sigma}$	α_c, deg	a_0, deg	a_1, deg	a_2, deg	a_3, deg	b_1, deg	b_2, deg	b_3, deg
$\frac{C'_L}{\sigma} = 0.07$													
0.	0.0447	0.070283	0.019538	-0.002263	0.00104	13.807	3.270	1.675	0.207	0.011	1.07	-0.007	0.019
4.00	-0.0088	0.069963	0.005686	0.000929	0.00087	1.206	3.459	2.927	0.274	0.015	1.20	-0.016	0.027
8.00	-0.0590	0.069798	-0.006898	0.004169	0.00115	-10.422	3.863	4.297	0.357	0.026	1.36	-0.011	0.042
12.00	-0.1069	0.069554	-0.020093	0.007964	0.00220	-21.788	4.391	5.557	0.402	0.019	1.55	0.010	0.046
16.00	-0.1499	0.069598	-0.035127	0.013046	0.00518	-32.795	5.055	6.790	0.437	0.008	1.80	0.081	0.057
$\frac{C'_L}{\sigma} = 0.08$													
4.00	-0.0019	0.080127	0.009599	0.000327	0.00103	3.254	4.036	3.193	0.304	0.013	1.39	-0.020	0.027
8.00	-0.0528	0.079788	-0.004916	0.004068	0.00154	-8.496	4.386	4.590	0.391	0.022	1.57	-0.007	0.043
12.00	-0.0974	0.079577	-0.019357	0.008354	0.00332	-19.629	4.862	5.975	0.456	0.017	1.82	0.045	0.058
16.00	-0.1414	0.079941	-0.0350	0.014062	0.00811	-29.996	5.511	7.510	0.512	0.001	2.17	0.132	0.073
$\frac{C'_L}{\sigma} = 0.09$													
4.00	0.0057	0.090346	0.014752	-0.000453	0.00139	5.529	4.641	3.524	0.351	0.016	1.60	-0.015	0.033
8.00	-0.0456	0.089996	-0.001934	0.003830	0.00217	-6.404	4.913	4.921	0.436	0.020	1.83	0.025	0.054
12.00	-0.0920	0.090171	-0.017512	0.008734	0.00536	-17.190	5.374	6.514	0.526	0.011	2.17	0.096	0.076
16.00	-0.1322	0.089699	-0.0335	0.015232	0.01297	-27.141	5.833	8.380	0.602	-0.012	2.70	0.241	0.103
$\frac{C'_L}{\sigma} = 0.10$													
4.00	0.0158	0.100414	0.022001	-0.001411	0.00265	8.389	5.288	4.094	0.454	0.031	1.90	0.018	0.053
8.00	-0.0374	0.100093	0.002482	0.003497	0.00371	-4.044	5.442	5.389	0.508	0.020	2.16	0.074	0.072
12.00	-0.0821	0.099511	-0.014125	0.009314	0.00973	-14.499	5.806	7.222	0.613	-0.001	2.64	0.151	0.103

TABLE 1. - Continued

CALCULATED CHARACTERISTICS OF A ROTOR HAVING RECTANGULAR BLADES WITH A LINEAR TWIST OF -8°

(c) $\frac{V}{\Omega R} = 0.25$; $M_{(1.0,90°)} = 0.9$

$\theta_{.75R}$, deg	λ	$\frac{C'_L}{\sigma}$	$\frac{C'_D}{\sigma}$	$\frac{C_Q}{\sigma}$	$\frac{bC_{Q,D}}{\sigma}$	α_c, deg	a_0, deg	a_1, deg	a_2, deg	a_3, deg	b_1, deg	b_2, deg	b_3, deg
$\frac{C'_L}{\sigma} = 0.03$													
-4.00	0.0681	0.029640	0.009534	0.000522	0.00091	17.338	0.640	-0.675	-0.012	-0.001	0.19	0.019	-0.009
-0.	0.0162	0.030104	0.004306	0.001486	0.00072	5.117	0.961	0.604	0.069	0.009	0.33	0.001	0.004
4.00	-0.0347	0.030289	-0.000933	0.002643	0.00071	-6.582	1.366	1.954	0.151	0.012	0.49	-0.026	0.015
8.00	-0.0849	0.030065	-0.006690	0.004096	0.00083	-18.403	1.817	3.207	0.222	0.017	0.64	-0.046	0.025
12.00	-0.1337	0.029879	-0.013854	0.006243	0.00123	-30.615	2.361	4.237	0.261	0.020	0.76	-0.045	0.033
16.00	-0.1798	0.029667	-0.023937	0.009700	0.00238	-43.592	3.048	4.877	0.249	0.015	0.85	-0.014	0.032
$\frac{C'_L}{\sigma} = 0.04$													
-4.00	0.0752	0.039690	0.014305	-0.000544	0.00100	19.554	1.264	-0.380	0.026	0.001	0.38	0.015	-0.004
-0.	0.0223	0.040101	0.006721	0.000984	0.00075	7.005	1.514	0.854	0.103	0.010	0.52	-0.003	0.007
4.00	-0.0287	0.040344	-0.000344	0.002642	0.00073	-4.756	1.903	2.205	0.186	0.014	0.68	-0.028	0.019
8.00	-0.0789	0.040148	-0.007829	0.004597	0.00089	-16.497	2.359	3.479	0.257	0.018	0.82	-0.047	0.029
12.00	-0.1274	0.039953	-0.016689	0.007281	0.00146	-28.443	2.920	4.571	0.300	0.022	0.96	-0.041	0.038
16.00	-0.1726	0.039838	-0.028446	0.011360	0.00305	-40.792	3.624	5.361	0.294	0.013	1.08	-0.003	0.039
$\frac{C'_L}{\sigma} = 0.05$													
-0.	0.0285	0.049787	0.009922	0.000345	0.00080	9.008	2.067	1.095	0.133	0.009	0.69	-0.008	0.010
4.00	-0.0228	0.050329	0.000979	0.002511	0.00077	-2.938	2.440	2.454	0.221	0.017	0.86	-0.029	0.023
8.00	-0.0730	0.050122	-0.008202	0.004977	0.00101	-14.629	2.890	3.749	0.293	0.020	1.01	-0.045	0.034
12.00	-0.1212	0.049971	-0.018623	0.008188	0.00193	-26.333	3.454	4.911	0.342	0.022	1.18	-0.028	0.046
16.00	-0.1655	0.049934	-0.031578	0.012807	0.00397	-38.119	4.145	5.881	0.349	0.011	1.33	0.018	0.048
$\frac{C'_L}{\sigma} = 0.06$													
-0.	0.0354	0.060210	0.014226	-0.000462	0.00089	11.057	2.685	1.378	0.168	0.009	0.89	-0.017	0.011
4.00	-0.0168	0.060105	0.003061	0.002256	0.00085	-1.114	2.973	2.716	0.266	0.025	1.05	-0.025	0.032
8.00	-0.0671	0.060033	-0.007838	0.005243	0.00124	-12.773	3.413	4.027	0.332	0.023	1.21	-0.040	0.041
12.00	-0.1148	0.059942	-0.019627	0.008967	0.00264	-24.231	3.964	5.281	0.388	0.023	1.41	-0.010	0.056
16.00	-0.1579	0.059978	-0.033493	0.014161	0.00566	-35.414	4.630	6.481	0.417	0.012	1.62	0.057	0.064

TABLE 1. - Continued

CALCULATED CHARACTERISTICS OF A ROTOR HAVING RECTANGULAR BLADES WITH A LINEAR TWIST OF -8°

(c) $\frac{V}{\Omega R} = 0.25$; $M_{(1.0,90^{\circ})} = 0.9$ - Concluded

$\theta_{.75R}$, deg	λ	$\frac{C'_L}{\sigma}$	$\frac{C'_D}{\sigma}$	$\frac{C_Q}{\sigma}$	$\frac{bC_{Q,D}}{\sigma}$	α_c, deg	a_0, deg	a_1, deg	a_2, deg	a_3, deg	b_1, deg	b_2, deg	b_3, deg
$\frac{C'_L}{\sigma} = 0.07$													
4.00	-0.0111	0.069518	0.005703	0.001914	0.00099	0.648	3.491	2.934	0.287	0.020	1.23	-0.029	0.031
8.00	-0.0611	0.069723	-0.006703	0.005396	0.00170	-10.909	3.917	4.334	0.381	0.029	1.43	-0.020	0.054
12.00	-0.1080	0.069916	-0.019692	0.009658	0.00363	-22.068	4.454	5.703	0.443	0.021	1.68	0.021	0.068
16.00	-0.1498	0.070083	-0.034261	0.015470	0.00830	-32.710	5.085	7.113	0.476	0.001	1.96	0.097	0.073
$\frac{C'_L}{\sigma} = 0.08$													
4.00	-0.0042	0.080181	0.009648	0.001409	0.00129	2.729	4.094	3.222	0.322	0.017	1.44	-0.031	0.034
8.00	-0.0545	0.079820	-0.004708	0.005471	0.00244	-8.926	4.435	4.663	0.421	0.024	1.68	0.002	0.062
12.00	-0.1007	0.080053	-0.018442	0.010348	0.00567	-19.642	4.923	6.254	0.509	0.011	2.02	0.062	0.084
16.00	-0.1408	0.079560	-0.033466	0.016620	0.01154	-29.890	5.461	7.894	0.554	-0.007	2.38	0.170	0.098
$\frac{C'_L}{\sigma} = 0.09$													
4.00	0.0112	0.095433	0.0178	0.000302	0.00347	7.066	5.123	4.040	0.465	0.029	1.95	0.032	0.069
8.00	-0.0414	0.095147	0.001077	0.005472	0.00532	-5.206	5.265	5.413	0.531	0.019	2.20	0.082	0.092
12.00	-0.0863	0.095066	-0.0139	0.011611	0.01204	-15.323	5.569	7.492	0.663	-0.003	2.80	0.201	0.130
$\frac{C'_L}{\sigma} = 0.10$													
4.00	0.0157	0.100330	0.022830	0.000195	0.00524	8.369	5.328	4.422	0.524	0.030	2.14	0.069	0.086
8.00	-0.0371	0.100443	0.003613	0.005531	0.00703	-3.967	5.487	5.746	0.577	0.016	2.40	0.112	0.103
12.00	-0.0792	0.099782	-0.011652	0.012128	0.01517	-13.816	5.780	7.860	0.692	-0.013	3.05	0.252	0.134

TABLE 1. - Continued

CALCULATED CHARACTERISTICS OF A ROTOR HAVING RECTANGULAR BLADES WITH A LINEAR TWIST OF -8°

(d) $\frac{V}{\Omega R} = 0.30$; $M_{(1.0,90°)} = 0.7$

$\theta_{.75R}$, deg	λ	$\frac{C'_L}{\sigma}$	$\frac{C'_D}{\sigma}$	$\frac{C_Q}{\sigma}$	$\frac{bC_{Q,D}}{\sigma}$	α_c, deg	a_0, deg	a_1, deg	a_2, deg	a_3, deg	b_1, deg	b_2, deg	b_3, deg
$\frac{C'_L}{\sigma} = 0.03$													
-4.00	0.0690	0.030289	0.007081	-0.000445	0.00089	14.365	0.529	-0.747	0.002	-0.001	0.19	0.010	-0.001
-0.	0.0160	0.029814	0.003004	0.000584	0.00067	4.029	0.799	0.711	0.091	0.004	0.34	-0.003	0.010
4.00	-0.0357	0.029535	-0.000956	0.001755	0.00065	-5.896	1.150	2.282	0.192	0.011	0.51	-0.017	0.022
8.00	-0.0863	0.029782	-0.005290	0.003116	0.00069	-15.746	1.577	3.806	0.290	0.021	0.69	-0.021	0.037
12.00	-0.1359	0.029995	-0.010749	0.004944	0.00093	-25.865	2.064	5.104	0.342	0.018	0.84	-0.030	0.037
16.00	-0.1842	0.029671	-0.017783	0.007414	0.00128	-36.588	2.606	6.047	0.354	0.014	0.95	-0.024	0.034
$\frac{C'_L}{\sigma} = 0.04$													
-4.00	0.0791	0.040342	0.011704	-0.001652	0.00106	16.663	1.276	-0.351	0.064	0.002	0.48	0.012	0.005
0.	0.0227	0.039769	0.005062	0.000102	0.00071	5.638	1.332	1.001	0.134	0.006	0.55	-0.000	0.014
4.00	-0.0293	0.039605	-0.000398	0.001694	0.00066	-4.335	1.676	2.566	0.235	0.012	0.72	-0.013	0.027
8.00	-0.0799	0.039804	-0.006102	0.003459	0.00072	-14.145	2.103	4.107	0.334	0.023	0.91	-0.018	0.041
12.00	-0.1294	0.040044	-0.012928	0.005689	0.00098	-24.133	2.605	5.443	0.388	0.020	1.06	-0.026	0.042
16.00	-0.1774	0.039658	-0.021527	0.008627	0.00145	-34.601	3.170	6.475	0.414	0.023	1.18	-0.008	0.046
$\frac{C'_L}{\sigma} = 0.05$													
-4.00	0.0870	0.050170	0.016591	-0.002853	0.00122	18.557	1.875	0.009	0.112	0.003	0.72	0.021	0.012
0.	0.0259	0.050153	0.007973	-0.000569	0.00078	7.376	1.903	1.318	0.181	0.008	0.78	0.002	0.019
4.00	-0.0227	0.049761	0.000847	0.001468	0.00069	-2.752	2.210	2.853	0.278	0.014	0.94	-0.010	0.031
8.00	-0.0735	0.049824	-0.006287	0.003653	0.00078	-12.564	2.627	4.403	0.377	0.024	1.12	-0.014	0.045
12.00	-0.1233	0.049626	-0.014401	0.006259	0.00107	-22.543	3.111	5.754	0.429	0.021	1.27	-0.020	0.047
16.00	-0.1706	0.049769	-0.0245	0.009650	0.00180	-32.681	3.718	6.893	0.466	0.023	1.42	0.002	0.052
$\frac{C'_L}{\sigma} = 0.06$													
-4.00	0.0953	0.059725	0.022339	-0.004236	0.00147	20.516	2.509	0.374	0.160	0.007	0.94	0.015	0.014
0.	0.0373	0.060303	0.011666	-0.001408	0.00091	9.167	2.486	1.649	0.229	0.011	1.01	0.003	0.023
4.00	-0.0159	0.060040	0.002830	0.001067	0.00074	-1.126	2.758	3.146	0.322	0.016	1.17	-0.006	0.035
8.00	-0.0671	0.059833	-0.005823	0.003695	0.00087	-10.995	3.150	4.698	0.419	0.025	1.34	-0.010	0.050
12.00	-0.1169	0.059643	-0.015248	0.006695	0.00126	-20.889	3.634	6.093	0.479	0.023	1.50	-0.011	0.053
16.00	-0.1638	0.059902	-0.026354	0.0103	0.00236	-30.774	4.253	7.341	0.524	0.023	1.70	0.024	0.061

TABLE 1. - Continued

CALCULATED CHARACTERISTICS OF A ROTOR HAVING RECTANGULAR BLADES WITH A LINEAR TWIST OF -8°

(d) $\frac{V}{\Omega R}$ = 0.30; $M_{(1.0,90°)}$ = 0.7 - Concluded

$\theta_{.75R}$, deg	λ	$\frac{C'_L}{\sigma}$	$\frac{C'_D}{\sigma}$	$\frac{C_Q}{\sigma}$	$\frac{bC_{Q,D}}{\sigma}$	α_c, deg	a_0, deg	a_1, deg	a_2, deg	a_3, deg	b_1, deg	b_2, deg	b_3, deg
$\frac{C'_L}{\sigma}$ = 0.07													
0.	0.0452	0.070446	0.016268	-0.002432	0.00111	11.055	3.090	2.013	0.282	0.014	1.24	0.002	0.028
4.00	-0.0091	0.070038	0.005457	0.000521	0.00083	0.493	3.302	3.440	0.363	0.016	1.39	-0.006	0.038
8.00	-0.0606	0.069848	-0.004711	0.003585	0.00100	-9.426	3.674	4.994	0.463	0.027	1.56	-0.004	0.054
12.00	-0.1103	0.069681	-0.0148	0.006985	0.00162	-19.226	4.151	6.451	0.532	0.025	1.75	0.008	0.063
16.00	-0.1596	0.070058	-0.0273	0.0108	0.00422	-27.671	4.677	8.403	0.674	0.021	2.23	0.093	0.097
$\frac{C'_L}{\sigma}$ = 0.08													
0.	0.0526	0.080327	0.021834	-0.003649	0.00146	13.041	3.714	2.406	0.339	0.018	1.47	0.005	0.034
4.00	-0.0018	0.080161	0.008883	-0.000186	0.00099	2.216	3.869	3.770	0.413	0.019	1.61	-0.006	0.043
8.00	-0.0543	0.079710	-0.002941	0.003324	0.00123	-7.868	4.193	5.300	0.507	0.026	1.79	0.002	0.058
12.00	-0.1035	0.079574	-0.014715	0.007116	0.00226	-17.531	4.654	6.864	0.603	0.032	2.04	0.045	0.080
16.00	-0.1487	0.079794	-0.027568	0.012076	0.00663	-26.819	5.211	8.479	0.674	0.012	2.46	0.154	0.102
$\frac{C'_L}{\sigma}$ = 0.09													
0.	0.0628	0.090099	0.027686	-0.005032	0.00235	14.615	4.348	2.969	0.432	0.022	1.77	0.006	0.043
4.00	0.0063	0.090245	0.013361	-0.001095	0.00144	4.123	4.464	4.190	0.486	0.026	1.86	0.002	0.052
8.00	-0.0470	0.089991	-0.000277	0.002874	0.00168	-6.164	4.732	5.656	0.565	0.028	2.07	0.029	0.070
12.00	-0.0958	0.089771	-0.0136	0.007265	0.00397	-15.683	5.157	7.352	0.674	0.026	2.40	0.100	0.097
15.00	-0.1289	0.089685	-0.023347	0.011526	0.01066	-22.348	5.466	8.834	0.765	0.005	2.91	0.260	0.135
16.00	-0.1377	0.089579	-0.025855	0.013163	0.01435	-24.157	5.534	9.578	0.815	-0.013	3.32	0.387	0.159
$\frac{C'_L}{\sigma}$ = 0.10													
4.00	0.0172	0.100121	0.019608	-0.002131	0.00363	6.569	5.088	4.914	0.629	0.043	2.23	0.054	0.080
8.00	-0.0383	0.100179	0.003612	0.002343	0.00316	-4.165	5.275	6.215	0.669	0.034	2.44	0.087	0.094

TABLE 1. - Continued

CALCULATED CHARACTERISTICS OF A ROTOR HAVING RECTANGULAR BLADES WITH A LINEAR TWIST OF -8°

(e) $\frac{V}{\Omega R} = 0.30$; $M_{(1.0,90°)} = 0.8$

$\theta_{.75R}$, deg	λ	$\frac{C'_L}{\sigma}$	$\frac{C'_D}{\sigma}$	$\frac{C_Q}{\sigma}$	$\frac{bC_{Q,D}}{\sigma}$	α_c, deg	a_0, deg	a_1, deg	a_2, deg	a_3, deg	b_1, deg	b_2, deg	b_3, deg
$\frac{C'_L}{\sigma} = 0.03$													
-4.00	0.0688	0.030051	0.007147	-0.000196	0.00087	14.319	0.546	-0.824	0.001	-0.001	0.20	0.012	-0.001
-0.	0.0160	0.030039	0.003145	0.000747	0.00067	4.014	0.856	0.676	0.099	0.008	0.36	-0.006	0.012
4.00	-0.0359	0.029994	-0.000889	0.001875	0.00065	-5.918	1.234	2.277	0.207	0.018	0.55	-0.024	0.027
8.00	-0.0871	0.029781	-0.005297	0.003220	0.00070	-15.905	1.651	3.809	0.303	0.028	0.73	-0.034	0.041
12.00	-0.1371	0.030015	-0.010849	0.005090	0.00097	-26.102	2.157	5.128	0.357	0.025	0.89	-0.046	0.041
16.00	-0.1856	0.029615	-0.017930	0.007696	0.00150	-36.901	2.712	6.096	0.370	0.019	1.00	-0.033	0.039
$\frac{C'_L}{\sigma} = 0.04$													
-4.00	0.0786	0.040251	0.011746	-0.001439	0.00103	16.570	1.308	-0.416	0.065	0.002	0.50	0.012	0.006
-0.	0.0243	0.040123	0.0051	0.000143	0.00072	5.953	1.517	1.013	0.153	0.009	0.63	-0.004	0.017
4.00	-0.0292	0.039624	-0.000372	0.001829	0.00069	-4.328	1.787	2.557	0.248	0.017	0.78	-0.024	0.030
8.00	-0.0812	0.039740	-0.006356	0.003612	0.00079	-14.404	2.159	4.088	0.346	0.029	0.94	-0.032	0.046
12.00	-0.1321	0.039972	-0.0130	0.005848	0.00111	-24.691	2.610	5.405	0.396	0.027	1.07	-0.042	0.047
16.00	-0.1813	0.039511	-0.0216	0.008831	0.00180	-35.470	3.122	6.398	0.405	0.020	1.17	-0.023	0.045
$\frac{C'_L}{\sigma} = 0.05$													
-4.00	0.0864	0.050295	0.016649	-0.002669	0.00117	18.443	1.932	-0.050	0.116	0.006	0.73	0.011	0.011
0.	0.0288	0.049663	0.007793	-0.000364	0.00077	7.148	1.925	1.265	0.186	0.011	0.79	-0.006	0.021
4.00	-0.0235	0.049997	0.000822	0.001605	0.00069	-2.898	2.289	2.854	0.295	0.022	0.99	-0.021	0.036
8.00	-0.0748	0.049798	-0.006415	0.003811	0.00082	-12.815	2.708	4.420	0.395	0.033	1.17	-0.031	0.051
12.00	-0.1249	0.049540	-0.014590	0.006507	0.00126	-22.857	3.204	5.800	0.449	0.027	1.33	-0.033	0.054
16.00	-0.1721	0.049652	-0.024544	0.0098	0.00256	-32.978	3.811	7.011	0.488	0.026	1.54	0.014	0.062
$\frac{C'_L}{\sigma} = 0.06$													
-4.00	0.0947	0.060334	0.021279	-0.003990	0.00144	19.269	2.547	0.347	0.187	0.012	1.02	0.012	0.020
0.	0.0360	0.059945	0.011398	-0.001199	0.00088	8.895	2.516	1.601	0.236	0.014	1.02	-0.007	0.026
4.00	-0.0174	0.059619	0.002576	0.001257	0.00075	-1.434	2.803	3.130	0.334	0.022	1.20	-0.021	0.039
8.00	-0.0686	0.059802	-0.006035	0.003895	0.00096	-11.289	3.234	4.723	0.440	0.035	1.39	-0.027	0.057
12.00	-0.1185	0.059529	-0.015474	0.007028	0.00162	-21.212	3.723	6.164	0.503	0.029	1.59	-0.015	0.064
16.00	-0.1649	0.059763	-0.026461	0.011194	0.00378	-31.008	4.333	7.525	0.551	0.023	1.86	0.048	0.076

TABLE 1. - Continued

CALCULATED CHARACTERISTICS OF A ROTOR HAVING RECTANGULAR BLADES WITH A LINEAR TWIST OF -8°

(e) $\frac{V}{\Omega R} = 0.30$; $M_{(1.0,90°)} = 0.8$ - Continued

$\theta_{.75R}$, deg	λ	$\frac{C'_L}{\sigma}$	$\frac{C'_D}{\sigma}$	$\frac{C_Q}{\sigma}$	$\frac{bC_{Q,D}}{\sigma}$	α_c, deg	a_0, deg	a_1, deg	a_2, deg	a_3, deg	b_1, deg	b_2, deg	b_3, deg
$\frac{C'_L}{\sigma} = 0.07$													
0.	0.0434	0.070128	0.015784	-0.002198	0.00106	10.658	3.117	1.955	0.286	0.016	1.26	-0.010	0.030
4.00	-0.0105	0.070169	0.005239	0.000715	0.00087	0.223	3.380	3.446	0.382	0.025	1.43	-0.020	0.044
8.00	-0.0623	0.069798	-0.005000	0.003836	0.00118	-9.755	3.758	5.032	0.486	0.035	1.63	-0.019	0.062
12.00	-0.1114	0.069983	-0.015528	0.007433	0.00252	-19.426	4.255	6.605	0.576	0.036	1.90	0.026	0.084
15.00	-0.1478	0.069723	-0.024924	0.010781	0.00442	-26.969	4.587	7.607	0.593	0.019	2.07	0.072	0.089
16.00	-0.1590	0.070297	-0.0274	0.0118	0.00562	-29.114	4.743	8.064	0.614	0.012	2.21	0.102	0.095
17.00	-0.1706	0.069619	-0.030965	0.013440	0.00660	-31.584	4.848	8.411	0.617	0.007	2.27	0.124	0.097
$\frac{C'_L}{\sigma} = 0.08$													
0.	0.0516	0.080225	0.021296	-0.003395	0.00141	12.638	3.754	2.361	0.346	0.021	1.50	-0.011	0.036
4.00	-0.0037	0.080153	0.0087	0.000057	0.00107	1.849	3.937	3.769	0.429	0.025	1.66	-0.021	0.048
8.00	-0.0556	0.080215	-0.003141	0.003629	0.00165	-8.109	4.303	5.390	0.538	0.033	1.90	-0.002	0.070
12.00	-0.1046	0.079577	-0.014842	0.007737	0.00387	-17.735	4.725	7.043	0.635	0.028	2.23	0.071	0.099
16.00	-0.1482	0.079539	-0.027084	0.013267	0.01021	-26.720	5.231	8.890	0.716	-0.001	2.79	0.220	0.130
$\frac{C'_L}{\sigma} = 0.09$													
0.	0.0617	0.090377	0.028425	-0.004800	0.00244	14.977	4.459	2.915	0.436	0.031	1.78	-0.003	0.049
4.00	0.0043	0.090141	0.012857	-0.000799	0.00167	3.714	4.523	4.219	0.513	0.036	1.94	-0.004	0.063
8.00	-0.0484	0.090089	-0.000488	0.003300	0.00268	-6.416	4.815	5.791	0.606	0.033	2.22	0.042	0.088
12.00	-0.0960	0.089824	-0.013051	0.008214	0.00731	-15.679	5.211	7.665	0.719	0.013	2.70	0.155	0.124
15.00	-0.1265	0.089524	-0.022066	0.012950	0.01519	-21.846	5.459	9.420	0.821	-0.019	3.43	0.364	0.169
16.00	-0.1296	0.089697	-0.022114	0.015103	0.02184	-22.480	5.460	10.693	0.891	-0.073	4.40	0.594	0.194
$\frac{C'_L}{\sigma} = 0.095$													
0.	0.0726	0.094693	0.034767	-0.005843	0.00470	17.380	5.017	3.567	0.553	0.042	2.09	0.039	0.074
4.00	0.0132	0.095348	0.0159	-0.0010	0.00366	5.623	4.987	4.779	0.629	0.046	2.28	0.053	0.092
8.00	-0.0422	0.095479	0.0015	0.003164	0.00424	-5.060	5.165	6.147	0.668	0.030	2.50	0.092	0.105
12.00	-0.0895	0.094612	-0.011495	0.008690	0.01164	-14.278	5.423	8.167	0.797	0.004	3.12	0.266	0.157

TABLE 1. - Continued

CALCULATED CHARACTERISTICS OF A ROTOR HAVING RECTANGULAR BLADES WITH A LINEAR TWIST OF -8°

(e) $\frac{V}{\Omega R} = 0.30$; $M_{(1.0,\,90^\circ)} = 0.8$ - Concluded

$\theta_{.75R}$, deg	λ	$\frac{C'_L}{\sigma}$	$\frac{C'_D}{\sigma}$	$\frac{C_Q}{\sigma}$	$\frac{bC_{Q,D}}{\sigma}$	α_c, deg	a_0, deg	a_1, deg	a_2, deg	a_3, deg	b_1, deg	b_2, deg	b_3, deg
$\frac{C'_L}{\sigma} = 0.097$													
0.	0.0774	0.096643	0.037586	-0.006058	0.00637	16.431	5.199	3.92[illegible]	0.608	0.041	2.26	0.078	0.089
4.00	0.0155	0.097188	0.018977	-0.001593	0.00370	6.573	5.129	4.687	0.597	0.041	2.22	0.052	0.084
8.00	-0.0399	0.097280	0.002795	0.003096	0.00533	-4.563	5.250	6.32[illegible]	0.700	0.029	2.63	0.127	0.119
$\frac{C'_L}{\sigma} = 0.10$													
4.00	0.0171	0.099880	0.019594	-0.001537	0.00591	6.527	5.128	5.175	0.698	0.047	2.50	0.111	0.117
8.00	-0.0366	0.100430	0.004327	0.003313	0.00844	-3.826	5.340	6.699	0.770	0.027	2.87	0.182	0.138

TABLE 1. - Continued

CALCULATED CHARACTERISTICS OF A ROTOR HAVING RECTANGULAR BLADES WITH A LINEAR TWIST OF -8°

(f) $\frac{V}{\Omega R} = 0.30$; $M_{(1.0,90°)} = 0.9$

$\theta_{.75R}$, deg	λ	$\frac{C'_L}{\sigma}$	$\frac{C'_D}{\sigma}$	$\frac{C_Q}{\sigma}$	$\frac{bC_{Q,D}}{\sigma}$	α_c, deg	a_0, deg	a_1, deg	a_2, deg	a_3, deg	b_1, deg	b_2, deg	b_3, deg
$\frac{C'_L}{\sigma} = 0.03$													
-4.00	0.0683	0.029595	0.007854	0.000764	0.00085	14.232	0.548	-0.838	-0.019	-0.003	0.19	0.023	-0.011
-0.	0.0155	0.030105	0.003912	0.001596	0.00067	3.934	0.895	0.690	0.092	0.011	0.37	-0.003	0.006
4.00	-0.0367	0.030058	-0.000218	0.002663	0.00065	-6.067	1.281	2.290	0.211	0.024	0.57	-0.031	0.026
8.00	-0.0882	0.030025	-0.004756	0.004018	0.00071	-16.134	1.713	3.793	0.304	0.027	0.76	-0.058	0.039
12.00	-0.1386	0.030013	-0.010341	0.005961	0.00111	-26.428	2.217	5.125	0.374	0.031	0.93	-0.066	0.049
16.00	-0.1873	0.029539	-0.017497	0.008777	0.00208	-37.301	2.775	6.125	0.388	0.024	1.07	-0.043	0.052
$\frac{C'_L}{\sigma} = 0.04$													
-4.00	0.0780	0.040118	0.012457	-0.000569	0.00101	16.460	1.335	-0.415	0.051	0.002	0.50	0.018	-0.003
0.	0.0217	0.040117	0.005883	0.001088	0.00070	5.442	1.439	0.992	0.142	0.015	0.60	-0.005	0.012
4.00	-0.0307	0.040074	0.000267	0.002628	0.00066	-4.603	1.812	2.584	0.259	0.028	0.80	-0.032	0.032
8.00	-0.0823	0.040035	-0.005668	0.004456	0.00078	-14.624	2.247	4.104	0.353	0.030	0.98	-0.058	0.045
12.00	-0.1324	0.040024	-0.012624	0.006892	0.00141	-24.768	2.761	5.483	0.425	0.034	1.17	-0.060	0.058
16.00	-0.1805	0.039594	-0.021299	0.010310	0.00275	-35.301	3.330	6.597	0.446	0.025	1.35	-0.019	0.065
$\frac{C'_L}{\sigma} = 0.05$													
-4.00	0.0854	0.050247	0.017298	-0.001835	0.00115	18.295	1.968	-0.047	0.105	0.007	0.74	0.013	0.004
0.	0.0280	0.050078	0.008513	0.000439	0.00076	6.980	1.992	1.295	0.188	0.016	0.82	-0.011	0.016
4.00	-0.0247	0.050074	0.001384	0.002449	0.00070	-3.139	2.346	2.877	0.307	0.031	1.02	-0.033	0.038
8.00	-0.0763	0.050011	-0.005967	0.004765	0.00094	-13.129	2.776	4.414	0.401	0.033	1.21	-0.056	0.052
12.00	-0.1262	0.050013	-0.014192	0.007687	0.00187	-23.124	3.290	5.853	0.480	0.036	1.42	-0.043	0.070
16.00	-0.1734	0.049531	-0.024032	0.011694	0.00397	-33.295	3.851	7.122	0.521	0.027	1.67	0.021	0.083
$\frac{C'_L}{\sigma} = 0.06$													
-4.00	0.0934	0.060140	0.023060	-0.003268	0.00143	20.218	2.625	0.345	0.161	0.011	0.98	0.008	0.011
0.	0.0344	0.059705	0.011806	-0.000357	0.00086	8.600	2.546	1.600	0.234	0.019	1.04	-0.014	0.022
4.00	-0.0187	0.060043	0.003138	0.002134	0.00079	-1.668	2.883	3.166	0.351	0.033	1.24	-0.035	0.042
8.00	-0.0704	0.059741	-0.005610	0.004940	0.00124	-11.645	3.290	4.744	0.461	0.043	1.45	-0.043	0.065
12.00	-0.1157	0.059972	-0.015039	0.008379	0.00257	-21.462	3.801	6.252	0.540	0.036	1.71	-0.015	0.084
16.00	-0.1658	0.059633	-0.025818	0.013022	0.00594	-31.224	4.355	7.696	0.589	0.020	2.02	0.066	0.101

TABLE 1. - Continued

CALCULATED CHARACTERISTICS OF A ROTOR HAVING RECTANGULAR BLADES WITH A LINEAR TWIST OF -8°

(f) $\frac{V}{\Omega R} = 0.30$; $M_{(1.0,90°)} = 0.9$ - Continued

$\theta_{.75R}$, deg	λ	$\frac{C'_L}{\sigma}$	$\frac{C'_D}{\sigma}$	$\frac{C_Q}{\sigma}$	$\frac{bC_{Q,D}}{\sigma}$	α_c, deg	a_0, deg	a_1, deg	a_2, deg	a_3, deg	b_1, deg	b_2, deg	b_3, deg
$\frac{C'_L}{\sigma} = 0.07$													
0.	0.0416	0.070151	0.016160	-0.001351	0.00104	10.324	3.165	1.961	0.288	0.021	1.28	-0.022	0.027
4.00	-0.0125	0.070004	0.005545	0.001692	0.00097	-0.163	3.426	3.461	0.394	0.032	1.47	-0.036	0.047
8.00	-0.0645	0.069551	-0.004587	0.005026	0.00172	-10.143	3.800	5.079	0.508	0.030	1.70	-0.035	0.071
12.00	-0.1127	0.069929	-0.015010	0.008994	0.00408	-19.702	4.291	6.724	0.611	0.035	2.06	0.037	0.107
15.00	-0.1485	0.069605	-0.024208	0.012713	0.00694	-27.141	4.601	7.804	0.635	0.015	2.27	0.094	0.116
16.00	-0.1594	0.069934	-0.0263	0.0137	0.00830	-29.351	4.739	8.241	0.648	0.006	2.40	0.126	0.119
17.00	-0.1702	0.069931	-0.030040	0.015696	0.00959	-31.565	4.861	8.682	0.657	-0.002	2.51	0.156	0.122
$\frac{C'_L}{\sigma} = 0.08$													
0.	0.0497	0.080427	0.021616	-0.002509	0.00145	12.285	3.812	2.377	0.352	0.025	1.53	-0.023	0.036
4.00	-0.0058	0.080044	0.008768	0.001111	0.00135	1.453	3.988	3.812	0.454	0.037	1.72	-0.029	0.057
8.00	-0.0574	0.079853	-0.002788	0.004978	0.00262	-8.478	4.332	5.465	0.571	0.038	2.02	0.005	0.090
12.00	-0.1051	0.080177	-0.013953	0.009661	0.00665	-17.742	4.781	7.290	0.682	0.018	2.48	0.093	0.125
16.00	-0.1470	0.079780	-0.025611	0.015692	0.01352	-26.474	5.216	9.268	0.757	-0.014	3.11	0.260	0.154
$\frac{C'_L}{\sigma} = 0.09$													
0.	0.0599	0.090254	0.028661	-0.003765	0.00279	14.666	4.506	2.989	0.461	0.040	1.85	-0.003	0.058
4.00	0.0027	0.090342	0.013322	0.000377	0.00250	3.420	4.574	4.331	0.549	0.042	2.07	0.010	0.081
8.00	-0.0491	0.090455	0.000265	0.004900	0.00473	-6.549	4.870	5.992	0.655	0.032	2.43	0.071	0.116
12.00	-0.0954	0.090104	-0.0110	0.010651	0.01218	-15.214	5.189	8.270	0.820	-0.001	3.22	0.241	0.174
15.00	-0.1229	0.089746	-0.019495	0.015537	0.01940	-21.135	5.433	10.011	0.863	-0.044	3.95	0.423	0.185
16.00	-0.1226	0.089195	-0.0210	0.0163	0.02763	-21.222	5.355	11.529	0.915	-0.115	5.17	0.689	0.200
17.00	-0.1280	0.089518	-0.019194	0.019878	0.03302	-22.220	5.442	12.568	0.921	-0.163	5.72	0.741	0.172
$\frac{C'_L}{\sigma} = 0.0925$													
0.	0.0680	0.092187	0.032710	-0.004266	0.00507	16.355	4.677	3.495	0.554	0.045	2.11	0.040	0.081
4.00	0.0090	0.092868	0.016082	0.000141	0.00445	4.718	4.864	4.741	0.631	0.044	2.34	0.063	0.106
8.00	-0.0455	0.092630	0.001473	0.004938	0.00603	-5.786	5.037	6.208	0.690	0.027	2.62	0.114	0.131

TABLE 1. - Continued

CALCULATED CHARACTERISTICS OF A ROTOR HAVING RECTANGULAR BLADES WITH A LINEAR TWIST OF -8°

(f) $\frac{V}{\Omega R}$ = 0.30; $M_{(1.0, 90°)}$ = 0.9 - Concluded

$\theta_{.75R}$, deg	λ	$\frac{C'_L}{\sigma}$	$\frac{C'_D}{\sigma}$	$\frac{C_Q}{\sigma}$	$\frac{bC_{Q,D}}{\sigma}$	α_c, deg	a_0, deg	a_1, deg	a_2, deg	a_3, deg	b_1, deg	b_2, deg	b_3, deg
$\frac{C'_L}{\sigma}$ = 0.095													
0.	0.0744	0.094612	0.036212	-0.004314	0.00800	17.757	5.101	3.980	0.626	0.039	2.37	0.096	0.104
4.00	0.0133	0.094868	0.018017	0.000225	0.00702	5.642	5.005	5.110	0.701	0.045	2.56	0.117	0.130
8.00	-0.0421	0.095488	0.002825	0.005083	0.00804	-5.044	5.192	6.465	0.732	0.023	2.80	0.146	0.142
12.00	-0.0861	0.094718	-0.009122	0.011372	0.01670	-13.624	5.416	8.763	0.865	-0.020	3.66	0.352	0.187
$\frac{C'_L}{\sigma}$ = 0.10													
0.	0.0841	0.099598	0.042567	-0.003833	0.01365	19.970	5.392	4.771	0.721	0.021	2.75	0.176	0.132
4.00	0.0177	0.099920	0.021168	0.000079	0.00858	7.219	5.218	5.210	0.688	0.036	2.60	0.136	0.128
8.00	-0.0237	0.098683	0.009294	0.006978	0.02026	-1.589	5.249	8.192	0.968	-0.032	4.06	0.459	0.222

TABLE 1. - Continued

CALCULATED CHARACTERISTICS OF A ROTOR HAVING RECTANGULAR BLADES WITH A LINEAR TWIST OF -8°

(g) $\frac{V}{\Omega R} = 0.35$, $M_{(1.0,90°)} = 0.7$

$\theta_{.75R}$, deg	λ	$\frac{C'_L}{\sigma}$	$\frac{C'_D}{\sigma}$	$\frac{C_Q}{\sigma}$	$\frac{bC_{Q,D}}{\sigma}$	α_c, deg	a_0, deg	a_1, deg	a_2, deg	a_3, deg	b_1, deg	b_2, deg	b_3, deg
$\frac{C'_L}{\sigma} = 0.03$													
-4.00	0.0725	0.030482	0.006555	-0.000533	0.00087	12.715	0.626	-0.801	0.021	-0.000	0.27	0.015	-0.000
-0.	0.0172	0.030149	0.003027	0.000549	0.00063	3.527	0.852	0.851	0.131	0.008	0.42	-0.002	0.015
4.00	-0.0373	0.029872	-0.000500	0.001745	0.00062	-5.410	1.129	2.607	0.254	0.016	0.59	-0.021	0.034
8.00	-0.0909	0.029766	-0.004150	0.003029	0.00069	-14.333	1.454	4.317	0.372	0.027	0.77	-0.032	0.052
12.00	-0.1434	0.029963	-0.008550	0.004666	0.00093	-23.416	1.836	5.846	0.449	0.027	0.93	-0.040	0.058
16.00	-0.1947	0.029501	-0.013898	0.006746	0.00130	-32.945	2.247	7.081	0.493	0.030	1.06	-0.027	0.062
20.00	-0.2427	0.029979	-0.021518	0.009849	0.00196	-42.815	2.842	7.919	0.479	0.024	1.17	-0.006	0.055
$\frac{C'_L}{\sigma} = 0.04$													
-4.00	0.0795	0.040085	0.009773	-0.001486	0.00100	14.133	1.174	-0.443	0.078	0.001	0.53	0.017	0.006
-0.	0.0244	0.040411	0.005021	-0.000028	0.00069	4.955	1.417	1.212	0.194	0.011	0.69	0.001	0.022
4.00	-0.0305	0.039991	0.000099	0.001625	0.00064	-4.061	1.672	2.944	0.313	0.019	0.85	-0.016	0.040
8.00	-0.0842	0.039792	-0.004835	0.003350	0.00073	-12.967	1.994	4.663	0.430	0.029	1.03	-0.027	0.058
12.00	-0.1366	0.040024	-0.010410	0.005389	0.00099	-21.950	2.392	6.231	0.511	0.029	1.19	-0.034	0.065
16.00	-0.1877	0.039641	-0.017220	0.007986	0.00147	-31.323	2.826	7.516	0.555	0.032	1.33	-0.018	0.069
20.00	-0.2358	0.039683	-0.026038	0.011536	0.00235	-40.987	3.411	8.445	0.542	0.022	1.46	0.013	0.063
$\frac{C'_L}{\sigma} = 0.05$													
-4.00	0.0874	0.050095	0.013886	-0.002667	0.00122	15.722	1.769	-0.027	0.145	0.005	0.80	0.020	0.014
-0.	0.0314	0.050078	0.007513	-0.000740	0.00079	6.332	1.959	1.571	0.254	0.012	0.94	0.001	0.028
4.00	-0.0237	0.050103	0.001334	0.001316	0.00068	-2.707	2.218	3.281	0.371	0.022	1.12	-0.010	0.047
8.00	-0.0775	0.049823	-0.004897	0.003486	0.00080	-11.608	2.534	5.011	0.489	0.032	1.29	-0.021	0.065
12.00	-0.1303	0.049502	-0.011664	0.005930	0.00109	-20.615	2.906	6.580	0.566	0.031	1.44	-0.025	0.072
16.00	-0.1808	0.049716	-0.019694	0.008987	0.00178	-29.728	3.390	7.963	0.619	0.033	1.61	-0.003	0.079
20.00	-0.2280	0.049945	-0.029952	0.013122	0.00327	-39.171	3.986	9.013	0.610	0.016	1.82	0.055	0.078
$\frac{C'_L}{\sigma} = 0.06$													
-4.00	0.0960	0.060426	0.019032	-0.004129	0.00148	17.406	2.413	0.424	0.216	0.011	1.07	0.020	0.022
-0.	0.0390	0.060123	0.010806	-0.001660	0.00097	7.834	2.540	1.965	0.322	0.017	1.22	0.005	0.036
4.00	-0.0166	0.060411	0.003260	0.000808	0.00075	-1.303	2.782	3.633	0.433	0.025	1.39	-0.006	0.053
8.00	-0.0708	0.059848	-0.004386	0.003457	0.00091	-10.261	3.073	5.353	0.547	0.034	1.55	-0.014	0.071
12.00	-0.1235	0.059563	-0.012369	0.006336	0.00132	-19.196	3.448	6.962	0.629	0.033	1.72	-0.010	0.082
16.00	-0.1737	0.059801	-0.021432	0.009825	0.00242	-28.132	3.938	8.440	0.690	0.032	1.94	0.029	0.093
20.00	-0.2336	0.060034	-0.0320	0.0141	0.01035	-32.856	4.169	11.904	1.019	-0.007	3.19	0.295	0.205

TABLE 1. - Continued

CALCULATED CHARACTERISTICS OF A ROTOR HAVING RECTANGULAR BLADES WITH A LINEAR TWIST OF -8°

(g) $\frac{V}{\Omega R} = 0.35$; $M_{(1.0,90°)} = 0.7$ - Concluded

$\theta_{.75R}$, deg	λ	$\frac{C'_L}{\sigma}$	$\frac{C'_D}{\sigma}$	$\frac{C_Q}{\sigma}$	$\frac{bC_{Q,D}}{\sigma}$	α_c, deg	a_0, deg	a_1, deg	a_2, deg	a_3, deg	b_1, deg	b_2, deg	b_3, deg
$\frac{C'_L}{\sigma} = 0.07$													
0.	0.0472	0.070347	0.014974	-0.002794	0.00129	9.458	3.151	2.411	0.401	0.024	1.50	0.007	0.046
4.00	-0.0096	0.070084	0.005681	0.000170	0.00088	0.067	3.324	3.991	0.495	0.027	1.64	-0.004	0.059
8.00	-0.0643	0.069606	-0.003289	0.003259	0.00108	-8.944	3.599	5.693	0.603	0.034	1.81	-0.007	0.077
12.00	-0.1162	0.070126	-0.012352	0.006565	0.00179	-17.678	4.011	7.397	0.702	0.036	2.05	0.019	0.097
15.00	-0.1539	0.069876	-0.019825	0.009511	0.00343	-24.296	4.336	8.590	0.752	0.028	2.27	0.073	0.111
16.00	-0.1664	0.069692	-0.0220	0.0104	0.00459	-26.415	4.442	9.025	0.771	0.023	2.38	0.099	0.117
17.00	-0.1783	0.070418	-0.024371	0.011882	0.00682	-28.122	4.578	9.666	0.824	0.018	2.61	0.162	0.138
$\frac{C'_L}{\sigma} = 0.08$													
0.	0.0558	0.080179	0.019604	-0.004103	0.00196	10.910	3.756	2.966	0.505	0.032	1.82	0.011	0.059
4.00	-0.0016	0.080160	0.008976	-0.000672	0.00129	1.612	3.908	4.444	0.582	0.036	1.93	0.003	0.071
8.00	-0.0569	0.080125	-0.001375	0.002843	0.00143	-7.482	4.169	6.090	0.675	0.038	2.12	0.016	0.090
12.00	-0.1092	0.079526	-0.011661	0.006696	0.00306	-16.255	4.512	7.847	0.784	0.039	2.40	0.068	0.116
16.00	-0.1562	0.079738	-0.022081	0.011600	0.01043	-24.431	4.914	9.869	0.897	0.007	3.07	0.277	0.169
$\frac{C'_L}{\sigma} = 0.085$													
4.00	0.0028	0.085159	0.011010	-0.001178	0.00172	2.463	4.204	4.729	0.641	0.042	2.10	0.017	0.081
8.00	-0.0529	0.085464	-0.000061	0.002558	0.00182	-6.695	4.456	6.329	0.721	0.041	2.30	0.036	0.099
12.00	-0.1056	0.084703	-0.0104	0.0072	0.00631	-15.124	4.737	8.433	0.887	0.032	2.81	0.155	0.153
16.00	-0.1457	.084539	-0.019481	0.012420	0.01690	-22.455	5.028	10.934	1.002	-0.051	4.14	0.589	0.234
$\frac{C'_L}{\sigma} = 0.09$													
0.	0.0665	0.089684	0.026056	-0.005491	0.00354	13.190	4.407	3.605	0.615	0.043	2.13	0.038	0.079
4.00	0.0082	0.089959	0.013491	-0.001631	0.00256	3.601	4.514	4.965	0.683	0.047	2.23	0.033	0.089
8.00	-0.0486	0.090336	0.001396	0.002317	0.00264	-5.877	4.726	6.612	0.777	0.043	2.51	0.069	0.114
12.00	-0.0985	0.089702	-0.009493	0.007082	0.01003	-14.206	4.981	8.724	0.929	0.021	3.15	0.271	0.179

TABLE 1. - Continued

CALCULATED CHARACTERISTICS OF A ROTOR HAVING RECTANGULAR BLADES WITH A LINEAR TWIST OF -8°

(h) $\frac{V}{\Omega R} = 0.35$; $M_{(1.0, 90°)} = 0.8$

$\theta_{.75R}$, deg	λ	$\frac{C'_L}{\sigma}$	$\frac{C'_D}{\sigma}$	$\frac{C_Q}{\sigma}$	$\frac{bC_{Q,D}}{\sigma}$	α_c, deg	a_0, deg	a_1, deg	a_2, deg	a_3, deg	b_1, deg	b_2, deg	b_3, deg
$\frac{C'_L}{\sigma} = 0.03$													
-4.00	0.0723	0.030327	0.006670	-0.000278	0.00086	12.695	0.655	-0.879	0.018	-0.001	0.28	0.015	-0.000
-0.	0.0188	0.029968	0.003116	0.000747	0.00063	3.471	0.890	0.793	0.133	0.009	0.44	-0.007	0.017
4.00	-0.0378	0.029701	-0.000424	0.001887	0.00061	-5.508	1.179	2.568	0.261	0.021	0.63	-0.033	0.037
8.00	-0.0916	0.029755	-0.004120	0.003142	0.00070	-14.461	1.525	4.303	0.384	0.035	0.82	-0.049	0.057
12.00	-0.1444	0.029984	-0.008595	0.004794	0.00096	-23.602	1.923	5.853	0.466	0.036	0.99	-0.060	0.063
16.00	-0.1958	0.029617	-0.014055	0.006975	0.00142	-33.187	2.352	7.094	0.499	0.029	1.12	-0.048	0.064
20.00	-0.2438	0.030079	-0.021771	0.010322	0.00247	-43.092	2.952	7.975	0.483	0.018	1.27	-0.006	0.058
$\frac{C'_L}{\sigma} = 0.04$													
-4.00	0.0795	0.040453	0.010032	-0.001299	0.00097	14.155	1.238	-0.492	0.083	0.004	0.55	0.016	0.007
-0.	0.0238	0.040259	0.005051	0.000174	0.00068	4.858	1.458	1.157	0.198	0.014	0.71	-0.007	0.024
4.00	-0.0313	0.039792	0.000112	0.001782	0.00064	-4.201	1.723	2.909	0.321	0.025	0.89	-0.030	0.044
8.00	-0.0851	0.039771	-0.004857	0.003487	0.00075	-13.133	2.068	4.655	0.444	0.038	1.08	-0.046	0.064
12.00	-0.1378	0.040017	-0.010503	0.005556	0.00108	-22.171	2.482	6.244	0.529	0.039	1.26	-0.055	0.072
16.00	-0.1890	0.039557	-0.017336	0.008268	0.00183	-31.583	2.921	7.562	0.575	0.038	1.42	-0.026	0.080
20.00	-0.2368	0.035569	-0.026160	0.012117	0.00339	-41.232	3.506	8.565	0.560	0.023	1.59	0.027	0.076
$\frac{C'_L}{\sigma} = 0.05$													
-4.00	0.0870	0.050470	0.014098	-0.002493	0.00117	15.678	1.836	-0.078	0.151	0.008	0.83	0.015	0.016
-0.	0.0309	0.050468	0.007648	-0.000578	0.00078	6.285	2.035	1.539	0.264	0.018	0.98	-0.007	0.032
4.00	-0.0247	0.049943	0.001275	0.001494	0.00069	-2.880	2.274	3.253	0.383	0.029	1.16	-0.027	0.051
8.00	-0.0787	0.049786	-0.004981	0.003654	0.00085	-11.812	2.610	5.007	0.505	0.042	1.34	-0.042	0.071
12.00	-0.1312	0.050016	-0.011844	0.006180	0.00132	-20.773	3.027	6.630	0.592	0.041	1.54	-0.042	0.083
16.00	-0.1820	0.049614	-0.019824	0.009392	0.00257	-29.976	3.479	8.040	0.641	0.036	1.74	0.001	0.093
20.00	-0.2288	0.049682	-0.029961	0.013857	0.00503	-39.369	4.068	9.197	0.631	0.014	1.99	0.084	0.094
$\frac{C'_L}{\sigma} = 0.06$													
-4.00	0.0948	0.060125	0.018901	-0.003868	0.00139	17.269	2.438	0.343	0.216	0.012	1.09	0.015	0.024
-0.	0.0378	0.060117	0.0110	-0.001456	0.00094	7.656	2.591	1.914	0.329	0.021	1.25	-0.007	0.040
4.00	-0.0179	0.060249	0.003110	0.0012	0.00078	-1.520	2.841	3.609	0.446	0.033	1.43	-0.025	0.058
8.00	-0.0722	0.059809	-0.004535	0.003664	0.00102	-10.495	3.151	5.358	0.566	0.045	1.61	-0.035	0.079
12.00	-0.1244	0.060150	-0.012548	0.006661	0.00189	-19.345	3.566	7.041	0.658	0.041	1.85	-0.014	0.097
16.00	-0.1746	0.059711	-0.021540	0.010385	0.00390	-28.327	4.008	8.570	0.712	0.028	2.13	0.053	0.113
20.00	-0.2335	0.059935	-0.0318	0.0153	0.01206	-32.870	4.210	12.044	1.024	-0.020	3.50	0.313	0.224

TABLE 1. - Continued

CALCULATED CHARACTERISTICS OF A ROTOR HAVING RECTANGULAR BLADES WITH A LINEAR TWIST OF -8°

(h) $\frac{V}{\Omega R} = 0.35$; $M_{(1.0,90°)} = 0.8$ - Concluded

$\theta_{.75R}$, deg	λ	$\frac{C'_L}{\sigma}$	$\frac{C'_D}{\sigma}$	$\frac{C_Q}{\sigma}$	$\frac{bC_{Q,D}}{\sigma}$	α_c, deg	a_0, deg	a_1, deg	a_2, deg	a_3, deg	b_1, deg	b_2, deg	b_3, deg
$\frac{C'_L}{\sigma} = 0.07$													
0.	0.0455	0.070113	0.014686	-0.002550	0.00123	9.184	3.189	2.347	0.406	0.028	1.53	-0.009	0.049
4.00	-0.0111	0.070077	0.005475	0.000397	0.00094	-0.178	3.390	3.969	0.509	0.036	1.70	-0.022	0.066
8.00	-0.0656	0.069856	-0.003441	0.003513	0.00136	-9.152	3.692	5.730	0.628	0.044	1.91	-0.022	0.089
12.00	-0.1174	0.069958	-0.012473	0.006983	0.00287	-17.897	4.089	7.494	0.739	0.045	2.20	0.028	0.117
15.00	-0.1546	0.069746	-0.019854	0.010187	0.00542	-24.431	4.400	8.763	0.784	0.024	2.50	0.108	0.136
16.00	-0.1664	0.070050	-0.022261	0.011473	0.00704	-26.421	4.528	9.262	0.806	0.014	2.66	0.145	0.144
17.00	-0.1783	0.070228	-0.024164	0.012793	0.00934	-28.138	4.620	9.926	0.859	0.008	2.92	0.219	0.170
$\frac{C'_L}{\sigma} = 0.08$													
0.	0.0546	0.080480	0.019791	-0.003865	0.00191	10.954	3.842	2.890	0.505	0.039	1.84	-0.006	0.063
4.00	-0.0033	0.080309	0.008751	-0.000424	0.00142	1.349	3.984	4.432	0.601	0.046	2.00	-0.013	0.080
8.00	0.0584	0.079979	-0.001618	0.003187	0.00212	-7.729	4.230	6.144	0.702	0.045	2.25	0.019	0.109
12.00	-0.1098	0.079569	-0.011713	0.007331	0.00517	-16.371	4.580	8.003	0.815	0.034	2.63	0.098	0.141
16.00	-0.1553	0.079550	-0.021606	0.012677	0.01316	-24.308	4.942	10.178	0.929	-0.012	3.46	0.341	0.199
$\frac{C'_L}{\sigma} = 0.085$													
0.	[illegible]	0.084991	0.0224	-0.004474	0.00273	11.581	4.127	3.289	0.593	0.051	2.06	0.010	0.082
4.00	[illegible]	0.085385	0.010837	-0.000902	0.00209	2.234	4.284	4.749	0.667	0.053	2.20	0.007	0.094
8.00	[illegible]	0.085123	-0.000304	0.002982	0.00287	-6.933	4.510	6.406	0.752	0.046	2.46	0.048	0.121
12.00	-0.1056	.084597	-0.0104	0.0079	0.00927	-15.135	4.786	8.637	0.924	0.020	3.13	0.208	0.187
16.00	[illegible]	0.084737	-0.017640	0.013907	0.02132	-21.653	5.039	11.461	1.029	-0.095	4.88	0.681	0.246
$\frac{C'_L}{\sigma} = 0.09$													
0.	0.0650	0.089532	0.025658	-0.005094	0.00389	12.940	4.462	3.617	0.643	0.053	2.21	0.026	0.090
4.00	0.0075	0.090239	0.013427	-0.001295	0.00426	3.366	4.575	5.244	0.773	0.059	2.52	0.070	0.127
8.00	-0.0491	0.090442	0.001374	0.002885	0.00492	-5.965	4.791	6.773	0.822	0.043	2.76	0.104	0.144
12.00	-0.0968	0.089534	-0.009780	0.008186	0.01373	-13.930	5.007	9.094	0.985	-0.003	3.66	0.376	0.225

TABLE 1. - Continued

CALCULATED CHARACTERISTICS OF A ROTOR HAVING RECTANGULAR BLADES WITH A LINEAR TWIST OF -8°

$\frac{V}{\Omega R} = 0.35$; $M_{(1.0,90°)} = 0.9$

$\theta_{.75R}$, deg		$\frac{C'_L}{\sigma}$	$\frac{C'_D}{\sigma}$	$\frac{C_Q}{\sigma}$	$\frac{bC_{Q,D}}{\sigma}$	α_c, deg	α_s, deg	a_1, deg	a_2, deg	a_3, deg	b_1, deg	b_2, deg	b_3, deg
$\frac{C'_L}{\sigma} = 0.03$													
-4.00	0.0718	0.030032	0.007482	0.000716	0.00084	12.605	0.670	-0.889	-0.002	-0.003	0.28	0.027	-0.012
-0.	0.0161	0.029762	0.003893	0.001660	0.00062	3.352	0.915	0.796	0.122	0.011	0.45	-0.005	0.008
4.00	-0.0384	0.029972	0.000332	0.002734	0.00062	-5.609	1.237	2.588	0.264	0.029	0.66	-0.041	0.034
8.00	-0.0926	0.029726	-0.003417	0.003969	0.00071	-14.646	1.570	4.308	0.395	0.045	0.86	-0.068	0.059
12.00	-0.1457	0.029991	-0.007954	0.005661	0.00110	-23.838	1.975	5.851	0.484	0.047	1.04	-0.085	0.071
16.00	-0.1973	0.029566	-0.013468	0.007941	0.00187	-33.472	2.405	7.107	0.522	0.039	1.20	-0.068	0.078
20.00	-0.2452	0.030017	-0.021247	0.011572	0.00348	-43.390	3.003	8.048	0.505	0.022	1.37	-0.004	0.074
$\frac{C'_L}{\sigma} = 0.04$													
-4.00	0.0788	0.040294	0.010808	-0.000355	0.00094	14.043	1.265	-0.495	0.068	0.003	0.55	0.023	-0.003
-0.	0.0228	0.040064	0.005757	0.001077	0.00067	4.692	1.486	1.162	0.189	0.017	0.73	-0.008	0.017
4.00	-0.0322	0.039974	0.000831	0.002648	0.00064	-4.354	1.780	2.931	0.328	0.034	0.93	-0.042	0.043
8.00	-0.0865	0.039734	-0.004203	0.004377	0.00080	-13.359	2.116	4.664	0.458	0.050	1.12	-0.068	0.067
12.00	-0.1393	0.040002	-0.009893	0.006535	0.00135	-22.438	2.534	6.253	0.551	0.051	1.32	-0.079	0.083
16.00	-0.1901	0.040156	-0.016934	0.009509	0.00258	-31.766	3.000	7.618	0.596	0.039	1.54	-0.037	0.096
20.00	-0.2375	0.039999	-0.025727	0.013752	0.00503	-41.356	3.561	8.711	0.584	0.017	1.77	0.044	0.095
$\frac{C'_L}{\sigma} = 0.05$													
-4.00	0.0858	0.050063	0.014671	-0.001540	0.00112	15.473	1.848	-0.096	0.135	0.008	0.82	0.018	0.006
-0.	0.0297	0.050381	0.008301	0.000316	0.00076	6.080	2.072	1.543	0.259	0.023	1.01	-0.011	0.027
4.00	-0.0263	0.049553	0.001864	0.002416	0.00070	-3.153	2.301	3.259	0.386	0.037	1.18	-0.042	0.050
8.00	-0.0802	0.049733	-0.004376	0.004621	0.00098	-12.077	2.660	5.022	0.522	0.054	1.39	-0.065	0.076
12.00	-0.1328	0.049986	-0.011248	0.007290	0.00179	-21.049	3.077	6.660	0.617	0.052	1.63	-0.058	0.097
16.00	-0.1833	0.049512	-0.019185	0.010767	0.00379	-30.221	3.514	8.116	0.672	0.040	1.89	0.005	0.116
20.00	-0.2291	0.050158	-0.029194	0.015766	0.00741	-39.315	4.094	9.433	0.667	0.008	2.22	0.111	0.119
$\frac{C'_L}{\sigma} = 0.06$													
-4.00	0.0936	0.060127	0.019541	-0.002975	0.00138	17.081	2.481	0.349	0.209	0.015	1.10	0.013	0.017
-0.	0.0344	0.060124	0.011325	0.000556	0.00092	7.409	2.635	1.925	0.327	0.027	1.28	-0.017	0.035
4.00	-0.0197	0.059970	0.003616	0.001989	0.00083	-1.825	2.876	3.621	0.452	0.042	1.46	-0.043	0.058
8.00	-0.0739	0.059740	-0.003973	0.004727	0.00129	-10.787	3.201	5.386	0.585	0.056	1.68	-0.055	0.088
12.00	-0.1259	0.059934	-0.011900	0.007932	0.00281	-19.611	3.605	7.114	0.696	0.055	1.99	-0.012	0.121
16.00	-0.1756	0.059637	-0.020778	0.012045	0.00590	-28.498	4.041	8.702	0.750	0.030	2.33	0.068	0.140
20.00	-0.2196	0.060210	-0.030[illegible]	0.017686	0.01345	-32.876	4.190	12.128	1.037	-0.035	3.74	0.341	0.236

TABLE 1. - Continued

CALCULATED CHARACTERISTICS OF A ROTOR HAVING RECTANGULAR BLADES WITH A LINEAR TWIST OF -8°

(i) $\frac{V}{\Omega R} = 0.35$; $M_{(1.0, 90^{\circ})} = 0.9$ - Concluded

$\theta_{.75R}$, deg	λ	$\frac{C'_L}{\sigma}$	$\frac{C'_D}{\sigma}$	$\frac{C_Q}{\sigma}$	$\frac{bC_{Q,D}}{\sigma}$	α_c, deg	a_0, deg	a_1, deg	a_2, deg	a_3, deg	b_1, deg	b_2, deg	b_3, deg
$\frac{C'_L}{\sigma} = 0.07$													
0.	0.0438	0.070176	0.015197	-0.001628	0.00123	8.897	3.237	2.361	0.407	0.035	1.56	-0.023	0.046
4.00	-0.0130	0.070058	0.005949	0.001421	0.00108	-0.494	3.438	3.993	0.519	0.045	1.75	-0.040	0.069
8.00	-0.0671	0.070260	-0.002809	0.004712	0.00197	-9.375	3.765	5.806	0.655	0.053	2.02	-0.031	0.103
12.00	-0.1194	0.069550	-0.011698	0.008519	0.00445	-18.125	4.099	7.600	0.763	0.039	2.38	0.032	0.138
15.00	-0.1552	0.069584	-0.018964	0.012025	0.00771	-24.554	4.410	8.935	0.819	0.020	2.75	0.138	0.166
16.00	-0.1665	0.070171	-0.021242	0.013476	0.00950	-26.444	4.542	9.472	0.840	0.006	2.95	0.179	0.172
17.00	-0.1783	0.070255	-0.022971	0.014963	0.01158	-28.146	4.624	10.120	0.879	-0.006	3.21	0.241	0.188
$\frac{C'_L}{\sigma} = 0.08$													
0.	0.0527	0.080387	0.020159	-0.002856	0.00209	10.635	3.877	2.926	0.515	0.048	1.90	-0.012	0.067
4.00	-0.0054	0.080102	0.009148	0.000700	0.00180	0.999	4.015	4.475	0.618	0.055	2.09	-0.018	0.090
8.00	-0.0597	0.080063	-0.000951	0.004572	0.00337	-7.943	4.282	6.263	0.738	0.051	2.42	0.031	0.131
12.00	-0.1105	0.079509	-0.0105	0.009198	0.00783	-16.427	4.588	8.233	0.863	0.027	2.94	0.149	0.179
16.00	-0.1542	0.079630	-0.019988	0.014951	0.01576	-24.109	4.930	10.495	0.951	-0.028	3.85	0.381	0.218
$\frac{C'_L}{\sigma} = 0.085$													
0.	0.0562	0.085287	0.0229	-0.003460	0.00323	11.696	4.210	3.323	0.594	0.056	2.12	0.012	0.086
4.00	-0.0002	0.085344	0.0112	0.000322	0.00301	1.974	4.326	4.851	0.696	0.060	2.34	0.017	0.111
8.00	-0.0551	0.085409	0.000496	0.004532	0.00486	-7.058	4.561	6.579	0.794	0.046	2.69	0.080	0.149
12.00	-0.1046	0.084655	-0.0091	0.0094	0.01113	-15.372	4.838	8.650	0.921	0.015	3.31	0.231	0.201
$\frac{C'_L}{\sigma} = 0.09$													
0.	0.0647	0.089527	0.026437	-0.003827	0.00558	12.891	4.522	3.826	0.687	0.058	2.39	0.051	0.109
4.00	0.0076	0.089947	0.014288	0.000332	0.00740	3.388	4.600	5.520	0.831	0.057	2.82	0.135	0.165
8.00	-0.0489	0.090426	0.002435	0.004794	0.00875	-5.922	4.817	7.071	0.882	0.034	3.11	0.176	0.184
12.00	-0.0916	0.089668	-0.005819	0.010881	0.01890	-13.059	4.995	9.768	1.042	-0.048	4.47	0.523	0.252

TABLE 1. - Continued

CALCULATED CHARACTERISTICS OF A ROTOR HAVING RECTANGULAR BLADES WITH A LINEAR TWIST OF -8°

(j) $\frac{V}{\Omega R} = 0.40$; $M_{(1.0,90°)} = 0.7$

$\theta_{.75R}$, deg	λ	$\frac{C'_L}{\sigma}$	$\frac{C'_D}{\sigma}$	$\frac{C_Q}{\sigma}$	$\frac{bC_{Q,D}}{\sigma}$	α_c, deg	a_0, deg	a_1, deg	a_2, deg	a_3, deg	b_1, deg	b_2, deg	b_3, deg
$\frac{C'_L}{\sigma} = 0.03$													
-4.00	0.0730	0.030049	0.005643	-0.000375	0.00080	11.085	0.527	-0.951	0.013	-0.003	0.26	0.020	-0.003
-0.	0.0165	0.030270	0.002867	0.000584	0.00058	2.910	0.792	0.945	0.162	0.011	0.46	-0.004	0.021
4.00	-0.0399	0.029948	-0.000067	0.001711	0.00056	-5.178	1.059	2.901	0.315	0.023	0.65	-0.027	0.047
8.00	-0.0954	0.029795	-0.003081	0.002923	0.00062	-13.254	1.368	4.820	0.463	0.036	0.86	-0.043	0.070
12.00	-0.1498	0.030041	-0.006610	0.004425	0.00085	-21.415	1.729	6.604	0.575	0.038	1.06	-0.051	0.083
16.00	-0.2030	0.029708	-0.010958	0.006378	0.00124	-29.908	2.108	8.126	0.648	0.041	1.23	-0.039	0.090
20.00	-0.2536	0.029817	-0.016702	0.009087	0.00192	-38.688	2.593	9.304	0.656	0.030	1.40	-0.011	0.084
$\frac{C'_L}{\sigma} = 0.04$													
-4.00	0.0805	0.040097	0.008515	-0.001349	0.00097	12.363	1.093	-0.504	0.098	0.002	0.57	0.021	0.008
-0.	0.0243	0.040061	0.004530	0.000017	0.00065	4.060	1.321	1.334	0.237	0.014	0.75	0.001	0.030
4.00	-0.0331	0.040038	0.000504	0.001550	0.00059	-4.028	1.598	3.282	0.391	0.027	0.95	-0.020	0.056
8.00	-0.0887	0.039821	-0.003604	0.003184	0.00068	-12.089	1.905	5.211	0.538	0.040	1.15	-0.036	0.080
12.00	-0.1431	0.040060	-0.008243	0.005120	0.00094	-20.201	2.276	7.011	0.650	0.042	1.36	-0.042	0.093
16.00	-0.1981	0.039874	-0.013723	0.007508	0.00141	-28.567	2.671	8.584	0.718	0.037	1.55	-0.023	0.101
20.00	-0.2466	0.039925	-0.020605	0.010721	0.00250	-37.145	3.175	9.870	0.735	0.028	1.75	0.020	0.099
$\frac{C'_L}{\sigma} = 0.05$													
-4.00	0.0881	0.050197	0.012086	-0.002537	0.00118	13.684	1.674	-0.052	0.182	0.008	0.87	0.026	0.020
-0.	0.0305	0.050118	0.006822	-0.000750	0.00079	5.287	1.878	1.757	0.320	0.019	1.05	0.006	0.041
4.00	-0.0262	0.050210	0.001675	0.001180	0.00065	-2.860	2.145	3.668	0.467	0.031	1.25	-0.013	0.065
8.00	-0.0820	0.049841	-0.003608	0.003269	0.00077	-10.934	2.442	5.596	0.612	0.044	1.45	-0.028	0.089
12.00	-0.1367	0.049528	-0.009251	0.005587	0.00107	-19.068	2.786	7.398	0.719	0.044	1.65	-0.026	0.105
16.00	-0.1892	0.049916	-0.015829	0.008452	0.00186	-27.236	3.224	9.061	0.796	0.038	1.90	0.007	0.117
20.00	-0.2394	0.050181	-0.023641	0.012289	0.00460	-35.423	3.720	10.561	0.830	0.021	2.22	0.092	0.127
$\frac{C'_L}{\sigma} = 0.06$													
-4.00	0.0963	0.060216	0.016377	-0.003930	0.00153	15.090	2.275	0.444	0.271	0.014	1.19	0.029	0.032
-0.	0.0382	0.060146	0.009741	-0.001703	0.00104	6.574	2.450	2.220	0.411	0.025	1.36	0.009	0.053
4.00	-0.0194	0.060036	0.003371	0.000629	0.00074	-1.708	2.678	4.057	0.543	0.035	1.55	-0.007	0.075
8.00	-0.0753	0.059882	-0.003054	0.003182	0.00090	-9.780	2.980	5.981	0.686	0.047	1.75	-0.018	0.099
12.00	-0.1300	0.059544	-0.009729	0.005899	0.00136	-17.856	3.324	7.825	0.798	0.047	1.98	-0.004	0.119
16.00	-0.1820	0.059856	-0.017286	0.009319	0.00356	-25.879	3.758	9.581	0.881	0.036	2.31	0.063	0.140
20.00	-0.2312	0.059604	-0.025670	0.013726	0.00854	-33.794	4.199	11.326	0.936	0.008	2.82	0.225	0.170

TABLE 1. - Continued

CALCULATED CHARACTERISTICS OF A ROTOR HAVING RECTANGULAR BLADES WITH A LINEAR TWIST OF -8°

(j) $\frac{V}{\Omega R} = 0.40$; $M_{(1.0,90°)} = 0.7$ - Continued

$\theta_{.75R}$, deg	λ	$\frac{C'_L}{\sigma}$	$\frac{C'_D}{\sigma}$	$\frac{C_Q}{\sigma}$	$\frac{bC_{Q,D}}{\sigma}$	α_c, deg	a_0, deg	a_1, deg	a_2, deg	a_3, deg	b_1, deg	b_2, deg	b_3, deg
$\frac{C'_L}{\sigma} = 0.07$													
0.	0.0466	0.070497	0.013506	-0.002890	0.00149	7.996	3.063	2.752	0.517	0.035	1.69	0.010	0.067
4.00	-0.0119	0.070156	0.005705	-0.000106	0.00101	-0.455	3.244	4.512	0.637	0.043	1.87	0.000	0.088
8.00	-0.0688	0.069666	-0.001937	0.002864	0.00112	-8.638	3.506	6.372	0.760	0.049	2.07	-0.002	0.110
12.00	-0.1228	0.065560	-0.009594	0.006078	0.00240	-16.599	3.854	8.296	0.886	0.047	2.36	0.042	0.140
16.00	-0.1738	0.069861	-0.017540	0.010151	0.00821	-24.182	4.243	10.384	1.009	0.021	2.96	0.212	0.192
$\frac{C'_L}{\sigma} = 0.08$													
0.	0.0554	0.080041	0.017817	-0.004178	0.00239	9.452	3.647	3.359	0.640	0.046	2.04	0.024	0.086
4.00	-0.0032	0.080233	0.008894	-0.001059	0.00193	0.975	3.822	5.130	0.776	0.057	2.25	0.031	0.114
8.00	-0.0609	0.080186	-0.000013	0.002354	0.00191	-7.325	4.072	6.868	0.862	0.053	2.46	0.040	0.133
12.00	-0.1143	0.079660	-0.008442	0.006328	0.00736	-15.030	4.348	9.050	1.026	0.039	3.00	0.187	0.196
16.00	-0.1559	0.079752	-0.014592	0.011555	0.01848	-21.258	4.587	12.045	1.166	-0.096	4.78	0.719	0.292
$\frac{C'_L}{\sigma} = 0.084$													
0.	0.0593	0.083580	0.019702	-0.004682	0.00310	10.078	3.873	3.652	0.702	0.052	2.19	0.039	0.098
4.00	0.0012	0.084143	0.010503	-0.001412	0.00287	1.737	4.067	5.397	0.833	0.063	2.41	0.054	0.126
8.00	-0.0573	0.084194	0.0011	0.002201	0.00326	-6.735	4.286	7.139	0.921	0.056	2.66	0.079	0.150
12.00	-0.1078	0.083559	-0.007338	0.006586	0.01171	-14.107	4.512	9.568	1.105	0.012	3.55	0.372	0.249
$\frac{C'_L}{\sigma} = 0.085$													
0.	0.0619	0.085660	0.020955	-0.004982	0.00373	10.506	4.010	3.859	0.745	0.056	2.30	0.055	0.106
4.00	0.0032	0.085509	0.011170	-0.001549	0.00422	1.992	4.139	5.682	0.904	0.067	2.59	0.093	0.148
8.00	-0.0549	0.085817	0.001524	0.002212	0.00522	-6.366	4.369	7.366	0.974	0.057	2.83	0.127	0.169

TABLE 1. - Continued

CALCULATED CHARACTERISTICS OF A ROTOR HAVING RECTANGULAR BLADES WITH A LINEAR TWIST OF -8°

(j) $\frac{V}{\Omega R} = 0.40$; $M_{(1.0, 90°)} = 0.7$ - Concluded

$\theta_{.75R}$, deg	λ	$\frac{C'_L}{\sigma}$	$\frac{C'_D}{\sigma}$	$\frac{C_Q}{\sigma}$	$\frac{bC_{Q,D}}{\sigma}$	α_c, deg	a_0, deg	a_1, deg	a_2, deg	a_3, deg	b_1, deg	b_2, deg	b_3, deg
$\frac{C'_L}{\sigma} = 0.088$													
0.	0.0646	0.087712	0.022210	-0.005232	0.00458	10.941	4.148	4.075	0.788	0.058	2.41	0.068	0.117
4.00	0.0072	0.087540	0.012387	-0.001589	0.00719	2.613	4.257	6.081	0.987	0.064	2.85	0.168	0.180
$\frac{C'_L}{\sigma} = 0.09$													
0.	0.0678	0.089657	0.023591	-0.005441	0.00589	11.447	4.279	4.357	0.845	0.060	2.56	0.099	0.133
4.00	0.0158	0.089619	0.014619	-0.001137	0.01410	3.885	4.382	6.942	1.124	0.024	3.48	0.360	0.242
8.00	-0.0289	0.089555	0.007802	0.004032	0.02331	-2.546	4.524	10.011	1.316	-0.113	4.99	0.718	0.320

TABLE 1. - Continued

CALCULATED CHARACTERISTICS OF A ROTOR HAVING RECTANGULAR BLADES WITH A LINEAR TWIST OF -8°

(k) $\frac{V}{\Omega R} = 0.40$; $M_{(1.0,90°)} = 0.8$

$\theta_{.75R}$, deg	λ	$\frac{C'_L}{\sigma}$	$\frac{C'_D}{\sigma}$	$\frac{C_Q}{\sigma}$	$\frac{bC_{Q,D}}{\sigma}$	α_c, deg	a_0, deg	a_1, deg	a_2, deg	a_3, deg	b_1, deg	b_2, deg	b_3, deg
$\frac{C'_L}{\sigma} = 0.03$													
-4.00	0.0730	0.030000	0.005805	-0.000103	0.00078	11.087	0.566	-1.030	0.012	-0.004	0.28	0.021	-0.002
-0.	0.0162	0.030088	0.002980	0.000808	0.00058	2.869	0.832	0.878	0.163	0.013	0.48	-0.009	0.023
4.00	-0.0403	0.029838	0.000041	0.001878	0.00055	-5.245	1.113	2.853	0.322	0.029	0.70	-0.041	0.051
8.00	-0.0960	0.029797	-0.003013	0.003057	0.00064	-13.346	1.440	4.795	0.474	0.046	0.92	-0.064	0.076
12.00	-0.1506	0.030049	-0.006601	0.004562	0.00092	-21.551	1.813	6.599	0.593	0.050	1.13	-0.075	0.091
16.00	-0.2040	0.029772	-0.011037	0.006580	0.00148	-30.080	2.200	8.137	0.661	0.045	1.32	-0.057	0.099
20.00	-0.2547	0.029755	-0.016772	0.009440	0.00261	-38.881	2.694	9.364	0.676	0.035	1.52	-0.012	0.097
$\frac{C'_L}{\sigma} = 0.04$													
-4.00	0.0802	0.040030	0.008624	-0.001080	0.00093	12.322	1.132	-0.586	0.098	0.003	0.58	0.019	0.009
-0.	0.0232	0.040424	0.004704	0.000212	0.00064	4.056	1.396	1.291	0.246	0.019	0.79	-0.008	0.033
4.00	-0.0337	0.039945	0.000565	0.001733	0.00059	-4.123	1.655	3.239	0.399	0.035	1.00	-0.037	0.061
8.00	-0.0895	0.039812	-0.003576	0.003341	0.00071	-12.212	1.979	5.189	0.552	0.051	1.22	-0.059	0.086
12.00	-0.1441	0.040056	-0.008274	0.005297	0.00108	-20.362	2.362	7.012	0.669	0.054	1.44	-0.066	0.103
16.00	-0.1972	0.039814	-0.013788	0.007778	0.00194	-28.750	2.761	8.619	0.740	0.046	1.67	-0.034	0.115
20.00	-0.2474	0.039823	-0.020681	0.011204	0.00370	-37.313	3.256	9.970	0.754	0.026	1.93	0.038	0.119
$\frac{C'_L}{\sigma} = 0.05$													
-4.00	0.0875	0.050110	0.012131	-0.002275	0.00112	13.598	1.713	-0.138	0.180	0.009	0.89	0.021	0.021
-0.	0.0298	0.050087	0.006860	-0.000520	0.00076	5.188	1.929	1.695	0.325	0.024	1.09	-0.005	0.045
4.00	-0.0271	0.050080	0.001669	0.001386	0.00066	-2.992	2.202	3.628	0.477	0.040	1.30	-0.033	0.071
8.00	-0.0830	0.049821	-0.003629	0.003457	0.00084	-11.087	2.518	5.578	0.628	0.056	1.52	-0.053	0.097
12.00	-0.1375	0.050041	-0.009341	0.005845	0.00143	-19.170	2.903	7.438	0.746	0.057	1.77	-0.048	0.118
16.00	-0.1902	0.049815	-0.015891	0.008832	0.00282	-27.406	3.307	9.123	0.820	0.044	2.05	0.009	0.136
20.00	-0.2398	0.049941	-0.023682	0.012948	0.00627	-35.588	3.793	10.692	0.851	0.016	2.46	0.125	0.151
$\frac{C'_L}{\sigma} = 0.06$													
-4.00	0.0954	0.060210	0.016382	-0.003669	0.00145	14.976	2.320	0.364	0.273	0.016	1.21	0.021	0.034
-0.	0.0372	0.060146	0.009723	-0.001471	0.00099	6.435	2.503	2.153	0.416	0.031	1.40	-0.006	0.057
4.00	-0.0205	0.060007	0.003312	0.000856	0.00078	-1.862	2.743	4.020	0.555	0.045	1.60	-0.029	0.081
8.00	-0.0745	0.059835	-0.003128	0.003392	0.00107	-9.954	3.056	5.972	0.704	0.060	1.83	-0.042	0.109
12.00	-0.1307	0.060008	-0.009802	0.006227	0.00205	-17.960	3.435	7.885	0.828	0.058	2.13	-0.015	0.137
16.00	-0.1826	0.059736	-0.017302	0.009861	0.00506	-26.000	3.828	9.685	0.906	0.034	2.53	0.086	0.165
20.00	-0.2306	0.060004	-0.025526	0.014681	0.01076	-33.690	4.281	11.578	0.941	-0.009	3.19	0.279	0.197

TABLE 1. - Continued

CALCULATED CHARACTERISTICS OF A ROTOR HAVING RECTANGULAR BLADES WITH A LINEAR TWIST OF -8°

(k) $\frac{V}{\Omega R} = 0.40$; $M_{(1.0,90°)} = 0.8$ - Continued

$\theta_{.75R}$, deg	λ	$\frac{C'_L}{\sigma}$	$\frac{C'_D}{\sigma}$	$\frac{C_Q}{\sigma}$	$\frac{bC_{Q,D}}{\sigma}$	α_c, deg	a_0, deg	a_1, deg	a_2, deg	a_3, deg	b_1, deg	b_2, deg	b_3, deg
$\frac{C'_L}{\sigma} = 0.07$													
0.	0.0450	0.070184	0.013269	-0.002604	0.00140	7.760	3.093	2.663	0.519	0.041	1.73	-0.006	0.072
4.00	-0.0193	0.070120	0.005573	0.000146	0.00107	-0.851	3.306	4.467	0.647	0.052	1.93	-0.022	0.095
8.00	-0.0696	0.069893	-0.002006	0.003146	0.00154	-8.788	3.595	6.393	0.784	0.061	2.18	-0.020	0.125
12.00	-0.1293	0.069960	-0.009619	0.006552	0.00385	-16.669	3.954	8.392	0.919	0.053	2.57	0.051	0.165
16.00	-0.01737	0.069792	-0.017468	0.010963	0.01005	-24.234	4.304	10.512	1.032	0.010	3.27	0.252	0.223
$\frac{C'_L}{\sigma} = 0.08$													
0.	0.0541	0.080223	0.017723	-0.003903	0.00249	9.278	3.707	3.312	0.655	0.056	2.11	0.011	0.097
4.00	-0.0045	0.080454	0.008792	-0.000760	0.00226	0.797	3.904	5.102	0.792	0.069	2.35	0.009	0.124
8.00	-0.0620	0.080089	-0.000144	0.002755	0.00287	-7.488	4.127	6.906	0.886	0.059	2.62	0.048	0.157
12.00	-0.1142	0.079606	-0.0081	0.007096	0.00961	-15.052	4.403	9.170	1.054	0.029	3.31	0.233	0.232
16.00	-0.1545	0.079705	-0.013952	0.012740	0.02026	-21.095	4.625	12.109	1.168	-0.111	5.18	0.725	0.301
$\frac{C'_L}{\sigma} = 0.084$													
0.	0.0586	0.083987	0.019618	-0.004379	0.00374	9.832	3.939	3.738	0.760	0.070	2.35	0.042	0.124
4.00	0.0004	0.084459	0.0102	-0.001050	0.00428	1.576	4.136	5.520	0.887	0.072	2.63	0.065	0.154
8.00	-0.0579	0.084243	0.000924	0.002712	0.00514	-6.815	4.339	7.228	0.952	0.056	2.91	0.112	0.184
12.00	-0.1068	0.083550	-0.006897	0.007583	0.01382	-13.972	4.554	9.743	1.138	-0.007	3.96	0.433	0.286
$\frac{C'_L}{\sigma} = 0.088$													
0.	0.0639	0.087729	0.022141	-0.004795	0.00550	10.846	4.207	4.106	0.821	0.068	2.55	0.072	0.138
4.00	0.0079	0.087686	0.012595	-0.000842	0.01000	2.713	4.325	6.2[illegible]	1.027	0.055	3.16	0.210	0.214
8.00	-0.0376	0.087520	0.0053	0.004368	0.01925	-3.940	4.431	9.106	1.246	-0.056	4.65	0.618	0.327
12.00	-0.0826	0.087458	-0.000742	0.009790	0.02723	-10.473	4.624	11.731	1.287	-0.177	6.06	0.854	0.306

TABLE 1. - Continued

CALCULATED CHARACTERISTICS OF A ROTOR HAVING RECTANGULAR BLADES WITH A LINEAR TWIST OF -8°

(k) $\frac{V}{\Omega R} = 0.40$; $M_{(1.0,90°)} = 0.8$ - Concluded

$\theta_{.75R}$, deg	λ	$\frac{C'_L}{\sigma}$	$\frac{C'_D}{\sigma}$	$\frac{C_Q}{\sigma}$	$\frac{bC_{Q,D}}{\sigma}$	α_c, deg	a_0, deg	a_1, deg	a_2, deg	a_3, deg	b_1, deg	b_2, deg	b_3, deg
$\frac{C'_L}{\sigma} = 0.09$													
0.	0.0675	0.089583	0.023559	-0.004880	0.00735	11.412	4.333	4.426	0.881	0.065	2.74	0.114	0.158
4.00	0.0162	0.089577	0.014808	-0.000177	0.01570	3.947	4.430	7.014	1.150	0.013	3.76	0.380	0.272
8.00	-0.0283	0.089490	0.008222	0.005234	0.02428	-2.509	4.574	9.923	1.312	-0.111	5.26	0.684	0.326

TABLE 1. - Continued

CALCULATED CHARACTERISTICS OF A ROTOR HAVING RECTANGULAR BLADES WITH A LINEAR TWIST OF -8°

(l) $\frac{V}{\Omega R} = 0.40$; $M_{(1.0,90°)} = 0.9$

$\theta_{.75R}$, deg	λ	$\frac{C'_L}{\sigma}$	$\frac{C'_D}{\sigma}$	$\frac{C_Q}{\sigma}$	$\frac{bC_{Q,D}}{\sigma}$	α_c, deg	a_0, deg	a_1, deg	a_2, deg	a_3, deg	b_1, deg	b_2, deg	b_3, deg
$\frac{C'_L}{\sigma} = 0.03$													
-4.00	0.0729	0.030257	0.006839	0.000903	0.00077	11.094	0.620	-1.014	-0.004	-0.005	0.29	0.033	-0.016
-0.	0.0155	0.029951	0.003849	0.001784	0.00057	2.771	0.862	0.877	0.150	0.014	0.49	-0.007	0.013
4.00	-0.0413	0.029580	0.000879	0.002801	0.00055	-5.387	1.140	2.849	0.316	0.036	0.72	-0.050	0.045
8.00	-0.0970	0.029771	-0.002215	0.003949	0.00065	-13.497	1.485	4.796	0.481	0.058	0.96	-0.086	0.076
12.00	-0.1518	0.030061	-0.005851	0.005476	0.00101	-21.736	1.864	6.597	0.609	0.065	1.20	-0.105	0.098
16.00	-0.2053	0.029710	-0.010311	0.007557	0.00182	-30.294	2.247	8.145	0.683	0.057	1.42	-0.081	0.115
20.00	-0.2559	0.029707	-0.016076	0.010631	0.00357	-39.086	2.731	9.408	0.694	0.035	1.67	-0.011	0.118
$\frac{C'_L}{\sigma} = 0.04$													
-4.00	0.0798	0.040444	0.009678	-0.000128	0.00091	12.310	1.197	-0.567	0.086	0.004	0.60	0.026	-0.003
-0.	0.0222	0.040317	0.005521	0.001181	0.00063	3.922	1.430	1.291	0.235	0.023	0.81	-0.009	0.025
4.00	-0.0350	0.039661	0.001346	0.002681	0.00059	-4.303	1.684	3.239	0.396	0.043	1.03	-0.050	0.056
8.00	-0.0907	0.039769	-0.002811	0.004287	0.00075	-12.398	2.027	5.195	0.562	0.065	1.27	-0.085	0.088
12.00	-0.1454	0.040052	-0.007534	0.006309	0.00129	-20.568	2.412	7.023	0.687	0.069	1.52	-0.092	0.113
16.00	-0.1984	0.039727	-0.013043	0.008935	0.00270	-28.957	2.801	8.649	0.764	0.054	1.81	-0.043	0.136
20.00	-0.2484	0.039721	-0.019874	0.012655	0.00525	-37.484	3.284	10.042	0.778	0.027	2.12	0.051	0.143
$\frac{C'_L}{\sigma} = 0.05$													
-4.00	0.0866	0.050084	0.012980	-0.001291	0.00107	13.470	1.752	-0.139	0.167	0.010	0.90	0.025	0.010
-0.	0.0287	0.050061	0.007641	0.000448	0.00074	5.023	1.970	1.700	0.317	0.029	1.11	-0.012	0.037
4.00	-0.0286	0.049813	0.002384	0.002373	0.00067	-3.206	2.236	3.632	0.477	0.050	1.34	-0.050	0.067
8.00	-0.0845	0.049764	-0.002899	0.004469	0.00094	-11.303	2.568	5.591	0.641	0.071	1.58	-0.080	0.100
12.00	-0.1389	0.050011	-0.008600	0.006992	0.00197	-19.381	2.950	7.468	0.768	0.069	1.88	-0.063	0.133
16.00	-0.1913	0.049723	-0.015091	0.010219	0.00421	-27.585	3.338	9.185	0.847	0.049	2.24	0.016	0.161
20.00	-0.2405	0.049716	-0.022651	0.014612	0.00794	-35.698	3.794	10.803	0.874	0.013	2.69	0.147	0.177
$\frac{C'_L}{\sigma} = 0.06$													
-4.00	0.0943	0.060216	0.017156	-0.002693	0.00141	14.819	2.363	0.366	0.263	0.020	1.23	0.020	0.025
-0.	0.0357	0.060126	0.010444	-0.000495	0.00095	6.228	2.546	2.157	0.411	0.039	1.43	-0.017	0.050
4.00	-0.0218	0.060344	0.004072	0.001856	0.00084	-2.046	2.815	4.053	0.564	0.058	1.66	-0.051	0.080
8.00	-0.0781	0.059772	-0.002424	0.004495	0.00133	-10.186	3.103	6.001	0.719	0.073	1.92	-0.062	0.117
12.00	-0.1320	0.059963	-0.009034	0.007552	0.00312	-18.152	3.467	7.949	0.852	0.064	2.30	-0.008	0.161
16.00	-0.1834	0.059683	-0.016370	0.011523	0.00679	-26.121	3.851	9.797	0.934	0.033	2.77	0.109	0.195
20.00	-0.2307	0.059937	-0.024242	0.016676	0.01243	-33.692	4.272	11.735	0.971	-0.017	3.47	0.298	0.216

TABLE 1. - Continued

CALCULATED CHARACTERISTICS OF A ROTOR HAVING RECTANGULAR BLADES WITH A LINEAR TWIST OF -8°

(l) $\frac{V}{\Omega R} = 0.40$; $M_{(1.0,90^{\circ})} = 0.9$ - Continued

$\theta_{.75R}$, deg	λ	$\frac{C'_L}{\sigma}$	$\frac{C'_D}{\sigma}$	$\frac{C_Q}{\sigma}$	$\frac{bC_{Q,D}}{\sigma}$	α_c, deg	a_0, deg	a_1, deg	a_2, deg	a_3, deg	b_1, deg	b_2, deg	b_3, deg
$\frac{C'_L}{\sigma} = 0.07$													
0.	0.0434	0.070267	0.013940	-0.001611	0.00140	7.525	3.141	2.671	0.517	0.050	1.77	-0.020	0.067
4.00	-0.0150	0.070086	0.008226	0.001218	0.00120	-0.902	3.361	4.494	0.658	0.068	1.99	-0.043	0.097
8.00	-0.0709	0.070427	-0.001190	0.004389	0.00231	-8.934	3.671	6.481	0.809	0.070	2.33	-0.023	0.140
12.00	-0.1242	0.069984	-0.008746	0.008148	0.00568	-16.798	3.980	8.511	0.947	0.051	2.82	0.081	0.196
16.00	-0.1740	0.069693	-0.016248	0.012965	0.01174	-24.273	4.308	10.660	1.047	0.002	3.57	0.278	0.245
$\frac{C'_L}{\sigma} = 0.08$													
0.	0.0526	0.080196	0.018354	-0.002809	0.00281	9.053	3.754	3.364	0.670	0.070	2.19	0.004	0.101
4.00	-0.0061	0.080327	0.009453	0.000466	0.00302	0.566	3.941	5.166	0.809	0.078	2.48	0.014	0.137
8.00	-0.0628	0.080288	0.000729	0.004277	0.00481	-7.604	4.182	7.044	0.919	0.063	2.85	0.071	0.182
12.00	-0.1144	0.079500	-0.007152	0.009116	0.01166	-15.077	4.416	9.353	1.079	0.019	3.65	0.278	0.260
16.00	-0.1537	0.079080	-0.012164	0.015003	0.02234	-20.955	4.635	12.365	1.160	-0.127	5.55	0.734	0.291
$\frac{C'_L}{\sigma} = 0.082$													
0.	0.0554	0.082473	0.019594	-0.003058	0.00360	9.498	3.908	3.583	0.715	0.074	2.32	0.014	0.112
4.00	-0.0035	0.082434	0.010330	0.000392	0.00428	0.982	4.059	5.388	0.857	0.077	2.65	0.048	0.155
8.00	-0.0608	0.082182	0.001236	0.004323	0.00598	-7.284	4.267	7.198	0.947	0.057	3.00	0.112	0.198
$\frac{C'_L}{\sigma} = 0.084$													
0.	0.0579	0.084223	0.020679	-0.003223	0.00453	9.902	4.018	3.802	0.760	0.074	2.46	0.047	0.129
4.00	0.0000	0.084432	0.0111	0.000471	0.00667	1.520	4.177	5.706	0.923	0.071	2.89	0.110	0.183
8.00	-0.0568	0.084490	0.002392	0.004712	0.00982	-6.621	4.373	7.632	1.037	0.048	3.39	0.219	0.241
12.00	-0.1047	0.083723	-0.004951	0.009986	0.01669	-13.671	4.579	10.071	1.155	-0.034	4.50	0.504	0.297

TABLE 1.- Continued

CALCULATED CHARACTERISTICS OF A ROTOR HAVING RECTANGULAR BLADES WITH A LINEAR TWIST OF -8°

(l) $\frac{V}{\Omega R} = 0.40$; $M_{(1.0,90°)} = 0.9$ - Concluded

$\theta_{.75R}$, deg	λ	$\frac{C'_L}{\sigma}$	$\frac{C'_D}{\sigma}$	$\frac{C_Q}{\sigma}$	$\frac{bC_{Q,D}}{\sigma}$	α_c, deg	a_0, deg	a_1, deg	a_2, deg	a_3, deg	b_1, deg	b_2, deg	b_3, deg
$\frac{C'_L}{\sigma} = 0.088$													
0.	0.0641	0.087596	0.023099	-0.003300	0.00773	10.868	4.258	4.339	0.864	0.069	2.79	0.112	0.162
4.00	0.0098	0.087626	0.014105	0.001317	0.01378	2.981	4.369	6.628	1.088	0.034	3.59	0.298	0.254
$\frac{C'_L}{\sigma} = 0.09$													
0.	0.0689	0.089528	0.024837	-0.003098	0.01076	11.613	4.393	4.769	0.936	0.056	3.06	0.177	0.190
4.00	0.0190	0.089607	0.016780	0.002259	0.01875	4.349	4.493	7.461	1.195	-0.009	4.20	0.434	0.294
8.00	-0.0274	0.089575	0.010023	0.007654	0.02635	-2.340	4.636	10.184	1.306	-0.116	5.55	0.655	0.314

TABLE 1. - Continued

CALCULATED CHARACTERISTICS OF A ROTOR HAVING RECTANGULAR BLADES WITH A LINEAR TWIST OF -8°

(m) $\frac{V}{\Omega R} = 0.45$; $M_{(1.0,90°)} = 0.7$

$\theta_{.75R}$, deg	λ	$\frac{C'_L}{\sigma}$	$\frac{C'_D}{\sigma}$	$\frac{C_Q}{\sigma}$	$\frac{bC_{Q,D}}{\sigma}$	α_c, deg	a_0, deg	a_1, deg	a_2, deg	a_3, deg	b_1, deg	b_2, deg	b_3, deg
$\frac{C'_L}{\sigma} = 0$													
-4.00	0.0533	-0.000033	0.000678	0.001518	0.00090	6.601	-1.171	-2.447	+0.232	+0.025	-0.72	0.057	+0.022
-0.	-0.0044	0.000136	0.001234	0.001220	0.00082	-0.564	-0.867	-0.244	+0.073	+0.003	-0.50	-0.008	+0.006
4.00	-0.0625	-0.000224	0.001859	0.000979	0.00083	-8.034	-0.618	1.895	0.072	0.016	-0.31	+0.065	0.012
8.00	-0.1205	-0.000289	0.002245	0.000938	0.00094	-15.550	-0.336	3.994	0.218	0.035	-0.09	+0.119	0.028
12.00	-0.1770	-0.000002	0.002222	0.001193	0.00113	-23.199	-0.036	5.951	0.339	0.045	0.13	+0.158	0.039
16.00	-0.2326	-0.000496	0.002085	0.001610	0.00137	-31.208	0.246	7.640	0.429	0.051	0.34	+0.173	0.047
20.00	-0.2862	-0.000418	0.001408	0.002423	0.00172	-39.595	0.584	8.958	0.470	0.045	0.52	+0.171	0.045
$\frac{C'_L}{\sigma} = 0.01$													
-4.00	0.0601	0.009979	0.001619	0.001125	0.00093	7.824	-0.635	-1.996	+0.151	+0.018	-0.40	0.044	+0.016
-0.	0.0022	0.010117	0.001214	0.001236	0.00082	0.424	-0.342	0.180	0.003	0.003	-0.19	+0.020	+0.001
4.00	-0.0561	0.009825	0.000835	0.001431	0.00082	-7.022	-0.084	2.336	0.151	0.023	0.01	+0.079	0.018
8.00	-0.1136	0.009776	0.000264	0.001791	0.00092	-14.497	0.208	4.450	0.297	0.042	0.23	+0.133	0.033
12.00	-0.1701	0.010038	-0.000750	0.002455	0.00109	-22.087	0.522	6.428	0.419	0.052	0.46	+0.170	0.044
16.00	-0.2255	0.009695	-0.002108	0.003368	0.00134	-29.974	0.841	8.163	0.508	0.057	0.66	+0.188	0.051
20.00	-0.2789	0.009794	-0.004258	0.004791	0.00170	-38.198	1.217	9.536	0.545	0.051	0.85	+0.184	0.050
$\frac{C'_L}{\sigma} = 0.02$													
-4.00	0.0671	0.020011	0.003083	0.000536	0.00100	8.869	-0.093	-1.532	+0.068	+0.011	-0.07	0.029	+0.010
-0.	0.0089	0.020259	0.001743	0.001035	0.00083	1.424	0.190	0.608	0.081	0.010	0.13	+0.032	0.005
4.00	-0.0494	0.019924	0.000322	0.001682	0.00083	-6.015	0.449	2.772	0.230	0.029	0.34	+0.091	0.023
8.00	-0.1069	0.019812	-0.001189	0.002444	0.00091	-13.466	0.746	4.896	0.375	0.048	0.55	+0.145	0.039
12.00	-0.1657	0.020285	-0.002757	0.003461	0.00107	-20.508	1.062	7.131	0.534	0.065	0.82	+0.194	0.055
16.00	-0.2184	0.019919	-0.005710	0.004918	0.00138	-28.816	1.418	8.649	0.579	0.060	0.99	+0.196	0.056
20.00	-0.2718	0.019979	-0.009108	0.006866	0.00178	-36.861	1.830	10.101	0.621	0.056	1.18	+0.193	0.055
$\frac{C'_L}{\sigma} = 0.03$													
-4.00	0.0742	0.030083	0.005092	-0.000250	0.00109	9.931	0.453	-1.056	0.017	+0.004	0.26	0.014	+0.004
-0.	0.0155	0.030028	0.002756	0.000645	0.00085	2.401	0.705	1.033	0.157	0.016	0.45	+0.044	0.011
4.00	-0.0426	0.030008	0.000368	0.001707	0.00084	-5.011	0.983	3.208	0.310	0.036	0.66	+0.104	0.028
8.00	-0.1002	0.029832	-0.002084	0.002875	0.00090	-12.444	1.281	5.341	0.464	0.055	0.87	+0.156	0.044
12.00	-0.1591	0.030067	-0.004491	0.004262	0.00111	-19.542	1.595	7.582	0.613	0.072	1.14	+0.205	0.062
16.00	-0.2117	0.030044	-0.008625	0.006217	0.00147	-27.659	1.987	9.147	0.658	0.067	1.33	+0.203	0.063
20.00	-0.2649	0.030092	-0.013174	0.008679	0.00201	-35.571	2.422	10.666	0.703	0.063	1.54	+0.194	0.063

TABLE 1. - Continued

CALCULATED CHARACTERISTICS OF A ROTOR HAVING RECTANGULAR BLADES WITH A LINEAR TWIST OF -8°

(m) $\frac{V}{\Omega R} = 0.45$: $M_{(1.0,90°)} = 0.7$ - Continued

$\theta_{.75R}$, deg	λ	$\frac{C'_L}{\sigma}$	$\frac{C'_D}{\sigma}$	$\frac{C_Q}{\sigma}$	$\frac{bC_{Q,D}}{\sigma}$	α_c, deg	a_0, deg	a_1, deg	a_2, deg	a_3, deg	b_1, deg	b_2, deg	b_3, deg
$\frac{C'_L}{\sigma} = 0.04$													
-4.00	0.0815	0.040111	0.007645	-0.001224	0.00122	11.034	1.009	-0.556	0.104	0.004	0.59	-0.002	0.003
-0.	0.0225	0.040079	0.004313	0.000052	0.00001	3.435	1.243	1.495	0.240	0.023	0.77	-0.058	0.017
4.00	-0.0358	0.040144	0.000973	0.001508	0.00065	-3.999	1.522	3.648	0.390	0.043	0.98	-0.117	0.033
8.00	-0.0935	0.039855	-0.002473	0.003109	0.00094	-11.432	1.815	5.780	0.533	0.061	1.20	-0.167	0.050
12.00	-0.1524	0.039863	-0.005762	0.004984	0.00121	-18.575	2.131	8.031	0.693	0.079	1.48	-0.213	0.068
16.00	-0.2125	0.040033	-0.008877	0.00630	0.00179	-23.8	2.460	10.398	0.872	0.096	1.85	-0.233	0.093
20.00	-0.2573	0.040473	-0.016690	0.010368	0.00296	-34.283	3.006	11.273	0.797	0.070	1.97	-0.169	0.060
$\frac{C'_L}{\sigma} = 0.05$													
-4.00	0.0892	0.050208	0.010823	-0.002403	0.00140	12.187	1.579	-0.024	0.194	0.013	0.92	-0.022	0.010
-0.	0.0298	0.050143	0.006419	-0.000732	0.00103	4.514	1.793	1.995	0.331	0.031	1.10	-0.076	0.024
4.00	-0.0289	0.050394	0.002174	0.001073	0.00090	-2.965	2.072	4.101	0.473	0.050	1.32	-0.130	0.038
8.00	-0.0869	0.049872	-0.002343	0.003141	0.00131	-10.427	2.349	6.216	0.611	0.068	1.52	-0.177	0.055
12.00	-0.1457	0.049806	-0.006514	0.005305	0.00137	-17.608	2.662	8.485	0.777	0.087	1.82	-0.217	0.075
16.00	-0.1980	0.050032	-0.012548	0.008172	0.00202	-25.385	3.085	10.185	0.833	0.083	2.06	-0.193	0.084
20.00	-0.2500	0.049870	-0.018974	0.011926	0.00616	-32.933	3.504	12.013	0.923	0.083	2.50	-0.109	0.149
$\frac{C'_L}{\sigma} = 0.06$													
-4.00	0.0973	0.060327	0.014684	-0.003791	0.00167	13.406	2.168	0.553	0.294	0.024	1.26	-0.041	0.018
-0.	0.0376	0.060215	0.009139	-0.001710	0.00125	5.659	2.358	2.535	0.433	0.042	1.45	-0.096	0.032
4.00	-0.0219	0.060069	0.003815	0.000487	0.00098	-1.944	2.597	4.575	0.561	0.058	1.64	-0.144	0.045
8.00	-0.0802	0.059888	-0.001665	0.002960	0.00115	-9.419	2.884	6.656	0.691	0.075	1.85	-0.185	0.061
12.00	-0.1368	0.059536	-0.007309	0.005659	0.00161	-16.846	3.205	8.740	0.821	0.087	2.12	-0.199	0.080
16.00	-0.1906	0.059583	-0.013519	0.009047	0.00540	-24.163	3.583	10.854	0.964	0.099	2.57	-0.137	0.112
20.00	-0.2389	0.059637	-0.019880	0.013424	0.01369	-31.106	3.927	13.254	1.137	0.089	3.56	0.105	0.185
$\frac{C'_L}{\sigma} = 0.07$													
0.	0.0461	0.070204	0.012540	-0.002872	0.00184	6.897	2.938	3.206	0.557	0.058	1.81	-0.121	0.039
4.00	-0.0137	0.070178	0.006186	-0.000305	0.00145	-0.755	3.155	5.223	0.696	0.076	2.03	-0.155	0.057
8.00	-0.0734	0.069647	-0.000426	0.002590	0.00137	-8.397	3.402	7.142	0.788	0.085	2.21	-0.185	0.069
12.00	-0.1287	0.069752	-0.006858	0.005929	0.00468	-15.613	3.730	9.434	0.972	0.110	2.64	-0.145	0.107
16.00	-0.1768	0.069583	-0.012400	0.010279	0.01636	-22.099	3.969	12.363	1.250	0.103	3.92	0.169	0.223

TABLE 1. - Continued

CALCULATED CHARACTERISTICS OF A ROTOR HAVING RECTANGULAR BLADES WITH A LINEAR TWIST OF -8°

(m) $\frac{V}{\Omega R} = 0.45$; $M_{(1.0,\,90^{\circ})} = 0.7$ - Concluded

$\theta_{.75R}$, deg	λ	$\frac{C'_L}{\sigma}$	$\frac{C'_D}{\sigma}$	$\frac{C_Q}{\sigma}$	$\frac{bC_{Q,D}}{\sigma}$	α_c, deg	a_0, deg	a_1, deg	a_2, deg	a_3, deg	b_1, deg	b_2, deg	b_3, deg
$\frac{C'_L}{\sigma} = 0.075$													
0.	0.0508	0.075162	0.014549	-0.003105	0.00282	7.581	3.231	3.603	0.436	0.069	2.01	-0.130	0.045
4.00	-0.0085	0.075348	0.007780	-0.000719	0.00304	-0.017	3.454	5.708	0.808	0.097	2.27	-0.163	0.062
8.00	-0.0690	0.074899	0.000654	0.002416	0.00325	-7.703	3.673	7.643	0.912	0.110	2.52	-0.164	0.086
12.00	-0.1205	0.074529	-0.005473	0.006394	0.01305	-14.466	3.899	10.391	1.196	0.133	3.44	0.055	0.185
16.00	-0.1621	0.074733	-0.009636	0.011704	0.02818	-20.019	4.124	13.876	1.429	0.014	5.43	0.436	0.290
$\frac{C'_L}{\sigma} = 0.08$													
0.	0.0558	0.079627	0.016468	-0.004003	0.00420	6.194	3.492	4.121	0.751	0.088	2.24	-0.144	0.051
4.00	-0.0009	0.079693	0.009705	-0.000712	0.00846	1.020	3.691	6.599	1.025	0.133	2.74	-0.106	0.098
8.00	-0.0506	0.079673	0.004241	0.003564	0.01979	-5.332	3.863	9.797	1.356	0.113	3.98	0.141	0.230
12.00	-0.1010	0.079533	-0.001483	0.008081	0.02807	-11.849	4.076	12.506	1.479	0.028	5.14	0.329	0.294
16.00	-0.1500	0.079653	-0.007406	0.012992	0.03599	-18.321	4.358	15.015	1.507	-0.065	6.38	0.498	0.314

TABLE 1.- Continued

CALCULATED CHARACTERISTICS OF A ROTOR HAVING RECTANGULAR BLADES WITH A LINEAR TWIST OF -8°

(n) $\frac{V}{\Omega R} = 0.45$; $M_{(1.0,90°)} = 0.8$

$\theta_{.75R}$, deg	λ	$\frac{C'_L}{\sigma}$	$\frac{C'_D}{\sigma}$	$\frac{C_Q}{\sigma}$	$\frac{bC_{Q,D}}{\sigma}$	α_c, deg	a_0, deg	a_1, deg	a_2, deg	a_3, deg	b_1, deg	b_2, deg	b_3, deg
$\frac{C'_L}{\sigma} = 0$													
-4.00	0.0540	0.000140	0.000940	0.001828	0.00090	6.931	-1.118	-2.521	-0.235	-0.027	-0.71	0.064	-0.023
-0.	-0.0040	0.000057	0.001468	0.001452	0.00082	-0.305	-0.824	-0.325	-0.077	-0.005	-0.48	-0.004	-0.005
4.00	-0.0625	-0.000213	0.002060	0.001145	0.00083	-8.006	-0.561	1.829	0.072	0.018	-0.27	-0.067	0.013
8.00	-0.1202	-0.000234	0.002395	0.001055	0.00095	-15.356	-0.265	3.943	0.222	0.039	-0.04	-0.127	0.028
12.00	-0.1770	0.000027	0.002333	0.001271	0.00113	-23.248	0.045	5.916	0.346	0.051	0.19	-0.171	0.040
16.00	-0.2327	-0.000452	0.002137	0.001678	0.00136	-31.303	0.342	7.621	0.439	0.057	0.40	-0.189	0.048
20.00	-0.2865	-0.000395	0.001394	0.002517	0.00175	-39.751	0.694	8.951	0.481	0.052	0.59	-0.187	0.047
$\frac{C'_L}{\sigma} = 0.01$													
-4.00	0.0609	0.010453	0.001912	0.001403	0.00093	7.963	-0.263	-2.055	-0.150	-0.019	-0.37	0.047	-0.017
-0.	0.0024	0.010014	0.001426	0.001469	0.00082	0.455	-0.297	0.100	0.001	0.003	-0.16	-0.019	-0.000
4.00	-0.0560	0.009823	0.001021	0.001600	0.00082	-7.018	-0.025	2.270	0.153	0.025	0.05	-0.083	0.019
8.00	-0.1136	0.009818	0.000400	0.001917	0.00092	-14.529	0.281	4.400	0.301	0.047	0.28	-0.143	0.034
12.00	-0.1703	0.010062	-0.000661	0.002551	0.00109	-22.163	0.606	6.394	0.427	0.059	0.52	-0.185	0.046
16.00	-0.2258	0.009720	-0.002089	0.002467	0.00136	-30.098	0.939	8.144	0.518	0.065	0.73	-0.205	0.053
20.00	-0.2794	0.009809	-0.004322	0.004938	0.00178	-38.380	1.330	9.532	0.558	0.058	0.92	-0.199	0.053
$\frac{C'_L}{\sigma} = 0.02$													
-4.00	0.0673	0.019967	0.003295	0.000840	0.00099	8.916	-0.051	-1.619	-0.072	-0.012	-0.06	0.034	-0.010
-0.	0.0089	0.020110	0.001920	0.001273	0.00083	1.477	0.235	0.528	0.079	0.010	0.16	-0.033	0.006
4.00	-0.0494	0.019908	0.000484	0.001859	0.00083	-6.027	0.510	2.707	0.233	0.033	0.38	-0.098	0.024
8.00	-0.1071	0.019841	-0.001076	0.002582	0.00091	-13.523	0.820	4.846	0.381	0.054	0.61	-0.157	0.040
12.00	-0.1637	0.020087	-0.003087	0.003618	0.00109	-21.098	1.162	6.864	0.505	0.066	0.85	-0.198	0.052
16.00	-0.2191	0.019900	-0.005689	0.005043	0.00143	-28.942	1.514	8.642	0.593	0.069	1.07	-0.214	0.059
20.00	-0.2724	0.019965	-0.009203	0.007075	0.00201	-37.060	1.942	10.109	0.637	0.064	1.27	-0.205	0.061
$\frac{C'_L}{\sigma} = 0.03$													
-4.00	0.0741	0.030006	0.005255	0.000049	0.00107	9.925	0.493	-1.151	0.013	-0.005	0.27	0.017	-0.004
-0.	0.0166	0.030367	0.002957	0.000866	0.00085	2.421	0.778	0.977	0.161	0.018	0.49	-0.048	0.012
4.00	-0.0430	0.030011	0.000504	0.001895	0.00084	-5.051	1.045	3.152	0.314	0.041	0.70	-0.113	0.030
8.00	-0.1067	0.029847	-0.001983	0.003028	0.00091	-12.511	1.354	5.302	0.462	0.062	0.93	-0.171	0.046
12.00	-0.1574	0.030114	-0.004934	0.004477	0.00114	-20.028	1.709	7.343	0.587	0.074	1.17	-0.212	0.058
16.00	-0.2127	0.029957	-0.008574	0.006373	0.00160	-27.772	2.077	9.163	0.676	0.077	1.41	-0.220	0.068
20.00	-0.2667	0.030057	-0.013219	0.008959	0.00266	-35.710	2.527	10.724	0.727	0.072	1.66	-0.198	0.073

TABLE 1. - Continued

CALCULATED CHARACTERISTICS OF A ROTOR HAVING RECTANGULAR BLADES WITH A LINEAR TWIST OF -8°

(n) $\frac{V}{\Omega R}$ = 0.45; $M_{(1.0,90°)}$ = 0.8 - Continued

$\theta_{.75R}$, deg	λ	$\frac{C'_L}{\sigma}$	$\frac{C'_D}{\sigma}$	$\frac{C_Q}{\sigma}$	$\frac{bC_{Q,D}}{\sigma}$	α_c, deg	a_0, deg	a_1, deg	a_2, deg	a_3, deg	b_1, deg	b_2, deg	b_3, deg
$\frac{C'_L}{\sigma}$ = 0.04													
-4.00	0.0812	0.040058	0.007774	-0.000932	0.00119	10.995	1.051	-0.653	0.100	0.004	0.60	-0.002	0.003
-0.	0.0221	0.040037	0.004423	0.000301	0.00089	3.384	1.295	1.419	0.241	0.025	0.80	-0.064	0.018
4.00	-0.0364	0.040111	0.001064	0.001713	0.00086	-4.069	1.584	3.593	0.396	0.048	1.03	-0.128	0.035
8.00	-0.0943	0.039861	-0.002410	0.003284	0.00095	-11.526	1.890	5.743	0.542	0.069	1.26	-0.184	0.052
12.00	-0.1509	0.040112	-0.006289	0.005152	0.00128	-19.006	2.251	7.803	0.668	0.081	1.51	-0.221	0.065
18.00	-0.2060	0.039961	-0.010829	0.007477	0.00206	-26.648	2.631	9.685	0.762	0.084	1.78	-0.215	0.081
20.00	-0.2586	0.039987	-0.016528	0.010695	0.00401	-34.412	3.073	11.365	0.824	0.077	2.13	-0.161	0.096
$\frac{C'_L}{\sigma}$ = 0.05													
-4.00	0.0886	0.050156	0.010897	-0.002113	0.00134	12.113	1.622	-0.124	0.191	0.014	0.94	-0.024	0.010
-0.	0.0291	0.050091	0.006478	-0.000473	0.00101	4.427	1.844	1.913	0.331	0.034	1.14	-0.085	0.025
4.00	-0.0296	0.050391	0.002212	0.001301	0.00091	-3.061	2.137	4.048	0.480	0.056	1.37	-0.143	0.041
8.00	-0.0878	0.049863	-0.002324	0.003343	0.00105	-10.546	2.425	6.182	0.622	0.077	1.59	-0.195	0.058
12.00	-0.1444	0.050100	-0.007086	0.005629	0.00155	-17.980	2.790	8.276	0.753	0.090	1.86	-0.223	0.074
16.00	-0.1991	0.049885	-0.012542	0.008497	0.00306	-25.510	3.165	10.239	0.859	0.093	2.20	-0.191	0.099
20.00	-0.2505	0.049792	-0.018939	0.012376	0.00768	-33.004	3.585	12.149	0.954	0.086	2.73	-0.084	0.131
$\frac{C'_L}{\sigma}$ = 0.06													
-4.00	0.0945	0.060290	0.014702	-0.003503	0.00161	13.298	2.212	0.447	0.290	0.025	1.29	-0.045	0.018
-0.	0.0368	0.060202	0.009147	-0.001450	0.00119	5.534	2.411	2.460	0.433	0.046	1.48	-0.104	0.034
4.00	-0.0230	0.060041	0.003792	0.000737	0.00100	-2.078	2.661	4.511	0.566	0.065	1.69	-0.158	0.048
8.00	-0.0813	0.059873	-0.001695	0.003200	0.00124	-9.558	2.960	6.630	0.705	0.085	1.93	-0.203	0.065
12.00	-0.1375	0.060047	-0.007326	0.005975	0.00230	-16.919	3.320	8.792	0.851	0.101	2.26	-0.209	0.090
18.00	-0.1912	0.059583	-0.013503	0.009538	0.00693	-24.249	3.656	10.947	0.995	0.106	2.78	-0.117	0.135
20.00	-0.2383	0.059600	-0.019705	0.014187	0.01585	-31.105	3.992	13.401	1.160	0.081	3.87	0.140	0.209
$\frac{C'_L}{\sigma}$ = 0.07													
0.	0.0449	0.070301	0.012515	-0.002612	0.00172	6.743	2.996	3.104	0.557	0.063	1.85	-0.128	0.043
4.00	-0.0150	0.070247	0.006128	-0.000044	0.00135	-0.923	3.223	5.139	0.698	0.084	2.09	-0.168	0.061
8.00	-0.0743	0.070009	-0.000436	0.002876	0.00177	-8.505	3.497	7.149	0.810	0.097	2.32	-0.197	0.077
12.00	-0.1294	0.069724	-0.006872	0.006404	0.00629	-15.705	3.798	9.498	1.005	0.120	2.83	-0.130	0.130
16.00	-0.1766	0.069645	-0.012261	0.011029	0.01821	-22.119	4.040	12.407	1.263	0.097	4.18	0.183	0.243
20.00	-0.2182	0.069783	-0.017067	0.016770	0.02082	-27.985	4.319	15.399	1.368	-0.024	5.98	0.484	0.289

TABLE 1. - Continued

CALCULATED CHARACTERISTICS OF A ROTOR HAVING RECTANGULAR BLADES WITH A LINEAR TWIST OF -8°

(d) $\frac{V}{\Omega R}$ = 0.45, $M_{(1.0,90°)}$ = 0.8 - Concluded

$\theta_{.75R}$, deg	α	$\frac{C'_L}{\sigma}$	$\frac{C'_D}{\sigma}$	$\frac{C_Q}{\sigma}$	$\frac{bC_{Q,D}}{\sigma}$	α_c, deg	a_0, deg	a_1, deg	a_2, deg	a_3, deg	b_1, deg	b_2, deg	b_3, deg
$\frac{C'_L}{\sigma} = 0.074$													
0.	0.0487	0.074321	0.014118	-0.003100	0.00233	7.310	3.236	3.419	0.619	0.073	2.02	-0.136	0.049
4.00	-0.0110	0.074432	0.007348	-0.000356	0.00243	-0.350	3.470	5.486	0.778	0.098	2.27	-0.179	0.062
8.00	-0.0705	0.074475	0.0005	0.002777	0.00283	-7.975	3.734	7.443	0.877	0.108	2.54	-0.182	0.086
12.00	-0.1236	0.073655	-0.006028	0.006800	0.01151	-14.916	3.955	10.076	1.140	0.132	3.35	-0.012	0.176
$\frac{C'_L}{\sigma} = 0.078$													
0.	0.0529	0.078271	0.015858	-0.003554	0.00341	7.916	3.472	3.810	0.703	0.087	2.21	-0.139	0.057
4.00	-0.0059	0.078250	0.008716	-0.000516	0.00501	0.375	3.685	5.949	0.890	0.118	2.54	-0.151	0.081
8.00	-0.0606	0.077555	0.002302	0.003414	0.01344	-6.662	3.831	8.660	1.190	0.145	3.40	0.017	0.180
12.00	-0.1084	0.077662	-0.002750	0.008230	0.02480	-12.870	4.051	11.669	1.414	0.075	4.81	0.284	0.280
$\frac{C'_L}{\sigma} = 0.08$													
0.	0.0558	0.080448	0.016811	-0.003699	0.00475	8.206	3.594	4.166	0.790	0.103	2.38	-0.143	0.066
4.00	-0.0022	0.079682	0.009572	-0.0004	0.00860	0.843	3.750	6.483	1.025	0.139	2.84	-0.108	0.110
8.00	-0.0520	0.079633	0.004181	0.004198	0.02048	-5.511	3.919	9.615	1.349	0.116	4.09	0.130	0.239

TABLE 1.- Continued

CALCULATED CHARACTERISTICS OF A ROTOR HAVING RECTANGULAR BLADES WITH A LINEAR TWIST OF -8°

(o) $\frac{V}{\Omega R} = 0.45$; $M_{(1.0,90^{\circ})} = 0.9$

$\theta_{.75R}$, deg	λ	$\frac{C'_L}{\sigma}$	$\frac{C'_D}{\sigma}$	$\frac{C_Q}{\sigma}$	$\frac{bC_{Q,D}}{\sigma}$	α_c, deg	a_0, deg	a_1, deg	a_2, deg	a_3, deg	b_1, deg	b_2, deg	b_3, deg
$\frac{C'_L}{\sigma} = 0$													
-4.00	0.0542	-0.000168	0.002064	0.003081	0.00092	6.926	-1.106	-2.535	-0.262	-0.038	-0.72	0.088	-0.036
-0.	-0.0041	-0.000233	0.002547	0.002548	0.00082	-0.523	-0.810	-0.343	-0.097	-0.012	-0.48	0.012	-0.016
4.00	-0.0625	-0.000030	0.003031	0.002129	0.00083	-7.991	-0.517	1.829	0.064	0.016	-0.24	-0.064	0.006
8.00	-0.1206	-0.000218	0.003331	0.001921	0.00095	-15.563	-0.228	3.934	0.219	0.041	-0.01	-0.134	0.024
12.00	-0.1775	0.000075	0.003211	0.002054	0.00114	-23.263	0.088	5.910	0.352	0.058	0.24	-0.186	0.040
16.00	-0.2335	-0.000314	0.002916	0.002405	0.00138	-31.332	0.387	7.612	0.448	0.064	0.46	-0.211	0.050
20.00	-0.2876	-0.000355	0.002098	0.003222	0.00192	-39.804	0.753	8.959	0.499	0.062	0.65	-0.212	0.052
$\frac{C'_L}{\sigma} = 0.01$													
-4.00	0.0606	0.009931	0.002965	0.002626	0.00093	7.906	-0.961	-2.080	-0.177	-0.030	-0.39	0.068	-0.030
-0.	0.0021	0.009680	0.002467	0.002553	0.00082	0.404	-0.283	0.086	-0.017	-0.003	-0.16	-0.006	-0.010
4.00	-0.0562	0.009971	0.001993	0.002580	0.00082	-7.039	0.020	2.275	0.146	0.025	0.08	-0.083	0.012
8.00	-0.1142	0.009827	0.001332	0.002807	0.00093	-14.572	0.321	4.396	0.301	0.050	0.32	-0.152	0.031
12.00	-0.1711	0.010110	0.000224	0.003382	0.00110	-22.216	0.651	6.392	0.435	0.066	0.57	-0.203	0.046
16.00	-0.2269	0.009816	-0.001275	0.004271	0.00146	-30.168	0.984	8.139	0.530	0.072	0.79	-0.227	0.057
20.00	-0.2807	0.009813	-0.003541	0.005758	0.00217	-38.467	1.384	9.549	0.579	0.069	1.00	-0.221	0.060
$\frac{C'_L}{\sigma} = 0.02$													
-4.00	0.0672	0.019988	0.004376	0.001991	0.00099	8.900	-0.013	-1.616	-0.091	-0.020	-0.06	0.048	-0.023
-0.	0.0083	0.019773	0.002913	0.002349	0.00083	1.344	0.251	0.518	0.064	0.006	0.16	-0.023	-0.004
4.00	-0.0503	0.019543	0.001468	0.002840	0.00083	-6.136	0.528	2.696	0.224	0.033	0.39	-0.099	0.017
8.00	-0.1080	0.019834	-0.000152	0.003500	0.00092	-13.602	0.862	4.848	0.383	0.059	0.65	-0.169	0.037
12.00	-0.1648	0.020125	-0.002204	0.004505	0.00113	-21.189	1.209	6.867	0.516	0.075	0.90	-0.218	0.053
16.00	-0.2204	0.019905	-0.004835	0.005931	0.00169	-29.047	1.563	8.649	0.611	0.080	1.13	-0.237	0.065
20.00	-0.2738	0.019929	-0.008359	0.008042	0.00267	-37.166	1.990	10.140	0.661	0.076	1.37	-0.220	0.072
$\frac{C'_L}{\sigma} = 0.03$													
-4.00	0.0738	0.029972	0.006293	0.001170	0.00106	9.877	0.529	-1.150	-0.004	-0.011	0.27	0.030	-0.016
-0.	0.0148	0.029999	0.003874	0.001921	0.00084	2.313	0.797	0.964	0.147	0.015	0.49	-0.042	0.003
4.00	-0.0440	0.029627	0.001411	0.002880	0.00083	-5.188	1.066	3.137	0.307	0.042	0.72	-0.116	0.023
8.00	-0.1017	0.029828	-0.001122	0.003967	0.00092	-12.642	1.402	5.296	0.485	0.068	0.97	-0.185	0.043
12.00	-0.1585	0.030140	-0.004120	0.005420	0.00127	-20.185	1.761	7.334	0.597	0.083	1.23	-0.232	0.060
16.00	-0.2139	0.029920	-0.007779	0.007367	0.00211	-27.951	2.126	9.159	0.694	0.087	1.50	-0.237	0.077
20.00	-0.2668	0.029936	-0.012413	0.010093	0.00366	-35.887	2.557	10.752	0.749	0.080	1.80	-0.193	0.092

TABLE 1. - Continued

CALCULATED CHARACTERISTICS OF A ROTOR HAVING RECTANGULAR BLADES WITH A LINEAR TWIST OF -8°

(o) $\frac{V}{\Omega R} = 0.45$; $M_{(1.0,90°)} = 0.9$ - Continued

$\theta_{.75R}$, deg	λ	$\frac{C'_L}{\sigma}$	$\frac{C'_D}{\sigma}$	$\frac{C_Q}{\sigma}$	$\frac{bC_{Q,D}}{\sigma}$	α_c, deg	a_0, deg	a_1, deg	a_2, deg	a_3, deg	b_1, deg	b_2, deg	b_3, deg
$\frac{C'_L}{\sigma} = 0.04$													
-4.00	0.0806	0.040008	0.008761	0.000161	0.00116	10.912	1.087	-0.657	0.085	-0.001	0.61	0.008	-0.008
-0.	0.0215	0.040390	0.005409	0.001306	0.00089	3.322	1.359	1.439	0.236	0.025	0.83	-0.084	0.009
4.00	-0.0376	0.039763	0.001914	0.002725	0.00086	-4.233	1.610	3.584	0.391	0.051	1.06	-0.134	0.029
8.00	-0.0955	0.039823	-0.001578	0.004266	0.00100	-11.688	1.940	5.741	0.547	0.076	1.30	-0.200	0.049
12.00	-0.1522	0.040122	-0.005495	0.006178	0.00158	-19.185	2.304	7.804	0.681	0.092	1.58	-0.239	0.069
16.00	-0.2072	0.039863	-0.010015	0.008618	0.00284	-26.832	2.671	9.703	0.784	0.095	1.90	-0.222	0.094
20.00	-0.2594	0.039883	-0.015655	0.012058	0.00574	-34.559	3.102	11.430	0.852	0.085	2.30	-0.150	0.117
$\frac{C'_L}{\sigma} = 0.05$													
-4.00	0.0877	0.050113	0.011834	-0.001044	0.00130	11.999	1.661	-0.132	0.178	0.010	0.95	-0.017	-0.000
-0.	0.0280	0.050067	0.007350	0.000563	0.00098	4.284	1.887	1.911	0.323	0.034	1.16	-0.084	0.017
4.00	-0.0311	0.050035	0.002989	0.002348	0.00092	-3.258	2.166	4.040	0.477	0.060	1.39	-0.152	0.035
8.00	-0.0892	0.049807	-0.001529	0.004382	0.00118	-10.735	2.476	6.187	0.629	0.085	1.64	-0.213	0.056
12.00	-0.1467	0.050078	-0.006292	0.006764	0.00215	-18.167	2.839	8.299	0.772	0.101	1.96	-0.234	0.083
16.00	-0.2002	0.049794	-0.011693	0.009837	0.00463	-25.669	3.199	10.295	0.886	0.101	2.37	-0.184	0.119
20.00	-0.2511	0.049741	-0.017959	0.013978	0.00946	-33.109	3.605	12.245	0.978	0.087	2.94	-0.066	0.155
$\frac{C'_L}{\sigma} = 0.06$													
-4.00	0.0954	0.060279	0.015588	-0.002448	0.00158	13.164	2.256	0.443	0.280	0.023	1.30	-0.042	0.009
-0.	0.0352	0.060173	0.009962	-0.000412	0.00115	5.353	2.455	2.451	0.425	0.047	1.51	-0.108	0.028
4.00	-0.0245	0.059997	0.004553	0.001798	0.00105	-2.280	2.707	4.512	0.565	0.069	1.73	-0.170	0.043
8.00	-0.0828	0.059808	-0.000931	0.004315	0.00157	-9.763	3.009	6.652	0.717	0.094	2.00	-0.216	0.067
12.00	-0.1388	0.060000	-0.006518	0.007276	0.00349	-17.094	3.363	8.849	0.876	0.110	2.40	-0.206	0.104
16.00	-0.1920	0.059524	-0.012566	0.011113	0.00852	-24.370	3.683	11.036	1.019	0.108	2.99	-0.098	0.158
20.00	-0.2392	0.059507	-0.018411	0.016026	0.01772	-31.148	4.001	13.512	1.172	0.075	4.08	0.145	0.227
$\frac{C'_L}{\sigma} = 0.07$													
0.	0.0431	0.070105	0.013193	-0.001520	0.00169	6.508	3.035	3.084	0.550	0.066	1.88	-0.138	0.034
4.00	-0.0170	0.070075	0.006808	0.001080	0.00146	-1.174	3.268	5.123	0.696	0.089	2.13	-0.183	0.056
8.00	-0.0757	0.069973	0.000320	0.004116	0.00257	-8.698	3.536	7.204	0.829	0.105	2.44	-0.191	0.089
12.00	-0.1302	0.069733	-0.005960	0.007975	0.00800	-15.817	3.832	9.614	1.034	0.123	3.05	-0.106	0.153
16.00	-0.1773	0.069640	-0.010941	0.012957	0.02052	-22.155	4.064	12.547	1.279	0.087	4.42	0.195	0.259
20.00	-0.2195	0.069842	-0.015716	0.018864	0.03199	-28.103	4.348	15.471	1.364	-0.027	6.09	0.464	0.296

TABLE 1. - Continued

CALCULATED CHARACTERISTICS OF A ROTOR HAVING RECTANGULAR BLADES WITH A LINEAR TWIST OF -8°

(o) $\frac{V}{\Omega R} = 0.45$; $M_{(1.0, 90°)} = 0.9$ - Concluded

$\theta_{.75R}$, deg	λ	$\frac{C'_L}{\sigma}$	$\frac{C'_D}{\sigma}$	$\frac{C_Q}{\sigma}$	$\frac{bC_{Q,D}}{\sigma}$	α_c, deg	a_0, deg	a_1, deg	a_2, deg	a_3, deg	b_1, deg	b_2, deg	b_3, deg
$\frac{C'_L}{\sigma} = 0.074$													
0.	0.0469	0.074178	0.014777	-0.001982	0.00240	7.066	3.276	3.429	0.623	0.079	2.06	-0.145	0.042
4.00	-0.0128	0.074260	0.008072	0.000833	0.00273	-0.580	3.494	5.529	0.793	0.107	2.38	-0.167	0.073
8.00	-0.0720	0.074138	0.001098	0.004105	0.00385	-8.165	3.746	7.537	0.906	0.116	2.70	-0.157	0.109
12.00	-0.1242	0.073595	-0.004899	0.008518	0.01372	-14.968	3.978	10.237	1.169	0.127	3.62	0.020	0.201
$\frac{C'_L}{\sigma} = 0.078$													
0.	0.0516	0.078262	0.016611	-0.002388	0.00386	7.733	3.517	3.884	0.723	0.097	2.30	-0.140	0.058
4.00	-0.0064	0.078132	0.009664	0.000949	0.00726	0.287	3.703	6.229	0.966	0.134	2.81	-0.112	0.110
8.00	-0.0609	0.077678	0.003426	0.005152	0.01559	-6.693	3.885	8.831	1.218	0.138	3.65	0.032	0.192
12.00	-0.1098	0.077629	-0.001614	0.010117	0.02594	-13.034	4.094	11.728	1.414	0.070	4.96	0.272	0.283
$\frac{C'_L}{\sigma} = 0.08$													
0.	0.0548	0.080361	0.017703	-0.002503	0.00526	8.166	3.641	4.204	0.794	0.108	2.47	-0.127	0.071
4.00	-0.0026	0.079679	0.010544	0.001268	0.01064	0.803	3.790	6.659	1.061	0.141	3.07	-0.078	0.130
8.00	-0.0530	0.079589	0.005223	0.005994	0.02196	-5.646	3.965	9.681	1.350	0.109	4.27	0.129	0.244

TABLE 1. - Continued

CALCULATED CHARACTERISTICS OF A ROTOR HAVING RECTANGULAR BLADES WITH A LINEAR TWIST OF -8°

(p) $\frac{V}{\Omega R} = 0.50$; $M_{(1.0,90°)} = 0.8$

$\theta_{.75R}$, deg	λ	$\frac{C'_L}{\sigma}$	$\frac{C'_D}{\sigma}$	$\frac{C_Q}{\sigma}$	$\frac{bC_{Q,D}}{\sigma}$	α_c, deg	a_0, deg	a_1, deg	a_2, deg	a_3, deg	b_1, deg	b_2, deg	b_3, deg
$\frac{C'_L}{\sigma} = 0$													
-4.00	0.0553	-0.000068	0.001124	0.001918	0.00088	6.326	-1.194	-2.825	-0.302	-0.039	-0.84	0.082	-0.030
-0.	-0.0047	0.000193	0.001681	0.001502	0.00080	-0.530	-0.873	-0.385	-0.100	-0.007	-0.56	-0.005	-0.009
4.00	-0.0656	-0.000165	0.002360	0.001156	0.00081	-7.522	-0.626	1.942	0.074	0.022	-0.33	-0.077	0.016
8.00	-0.1256	-0.000157	0.002816	0.001047	0.00092	-14.516	-0.332	4.268	0.256	0.050	-0.07	-0.154	0.034
12.00	-0.1845	0.000123	0.002947	0.001229	0.00109	-21.608	-0.034	6.479	0.417	0.068	0.21	-0.203	0.053
16.00	-0.2422	-0.000129	0.002877	0.001629	0.00131	-28.948	0.253	8.470	0.543	0.076	0.47	-0.231	0.065
20.00	-0.2980	0.000033	0.002279	0.002438	0.00170	-36.552	0.598	10.153	0.622	0.075	0.70	-0.242	0.066
$\frac{C'_L}{\sigma} = 0.01$													
-4.00	0.0619	0.009942	0.001867	0.001566	0.00089	7.201	-0.662	-2.325	-0.201	-0.028	-0.48	0.063	-0.022
-0.	0.0017	0.010134	0.001594	0.001546	0.00080	0.311	-0.353	0.082	-0.006	0.003	-0.22	-0.023	-0.002
4.00	-0.0591	0.009900	0.001383	0.001630	0.00080	-6.653	-0.095	2.433	0.172	0.032	0.03	-0.097	0.023
8.00	-0.1190	0.009887	0.001028	0.001900	0.00090	-13.624	0.205	4.767	0.353	0.060	0.28	-0.171	0.042
12.00	-0.1779	0.010153	0.000322	0.002461	0.00106	-20.674	0.516	6.995	0.513	0.078	0.56	-0.220	0.061
16.00	-0.2406	0.010038	-0.000010	0.003264	0.00134	-27.077	0.784	9.422	0.705	0.102	0.90	-0.260	0.092
20.00	-0.2909	0.010433	-0.002652	0.004728	0.00180	-35.427	1.213	10.754	0.715	0.081	1.10	-0.242	0.079
$\frac{C'_L}{\sigma} = 0.02$													
-4.00	0.0686	0.019966	0.003114	0.000999	0.00096	8.092	-0.125	-1.811	-0.098	-0.018	-0.11	0.043	-0.014
-0.	0.0081	0.020129	0.002008	0.001365	0.00081	1.150	0.167	0.547	0.087	0.013	0.13	-0.039	0.006
4.00	-0.0526	0.020005	0.000903	0.001883	0.00081	-5.788	0.436	2.920	0.271	0.042	0.38	-0.115	0.031
8.00	-0.1125	0.019900	-0.000248	0.002529	0.00088	-12.745	0.737	5.260	0.451	0.070	0.64	-0.188	0.050
12.00	-0.1714	0.020170	-0.001796	0.003483	0.00107	-19.756	1.062	7.503	0.608	0.087	0.93	-0.236	0.069
16.00	-0.2290	0.020095	-0.003789	0.004779	0.00146	-26.957	1.395	9.549	0.731	0.094	1.20	-0.256	0.083
20.00	-0.2845	0.020259	-0.006593	0.006656	0.00217	-34.334	1.795	11.339	0.809	0.090	1.48	-0.250	0.087
$\frac{C'_L}{\sigma} = 0.03$													
-4.00	0.0754	0.029990	0.004846	0.000221	0.00104	9.029	0.415	-1.272	0.009	-0.006	0.25	0.022	-0.005
-0.	0.0145	0.030010	0.0030	0.000967	0.00083	2.003	0.882	1.018	0.181	0.022	0.49	-0.054	0.015
4.00	-0.0459	0.030099	0.000923	0.001894	0.00082	-4.928	0.970	3.400	0.368	0.052	0.74	-0.133	0.037
8.00	-0.1068	0.030004	-0.000894	0.002938	0.00091	-11.780	1.251	5.830	0.567	0.084	1.04	-0.195	0.069
12.00	-0.1646	0.030272	-0.003475	0.004303	0.00117	-18.883	1.614	7.984	0.700	0.096	1.29	-0.249	0.075
16.00	-0.2221	0.030123	-0.006357	0.006030	0.00172	-26.043	1.954	10.051	0.821	0.102	1.58	-0.258	0.093
20.00	-0.2772	0.030199	-0.010104	0.008433	0.00297	-33.319	2.352	11.917	0.903	0.095	1.93	-0.223	0.109

TABLE 1. - Continued

CALCULATED CHARACTERISTICS OF A ROTOR HAVING RECTANGULAR BLADES WITH A LINEAR TWIST OF -8°

(p) $\frac{V}{\Omega R} = 0.50$; $M_{(1.0,90°)} = 0.8$ - Continued

$\theta_{.75R}$, deg	λ	$\frac{C'_L}{\sigma}$	$\frac{C'_D}{\sigma}$	$\frac{C_Q}{\sigma}$	$\frac{bC_{Q,D}}{\sigma}$	α_c, deg	a_0, deg	a_1, deg	a_2, deg	a_3, deg	b_1, deg	b_2, deg	b_3, deg
$\frac{C'_L}{\sigma} = 0.04$													
-4.00	0.0824	0.040069	0.007130	-0.000763	0.00118	9.967	0.974	-0.728	0.116	0.007	0.61	-0.005	0.003
-0.	0.0211	0.040044	0.004271	0.000374	0.00090	2.885	1.213	1.523	0.282	0.033	0.84	-0.073	0.023
4.00	-0.0393	0.040241	0.001502	0.001667	0.00085	-4.053	1.508	3.892	0.468	0.062	1.11	-0.151	0.044
8.00	-0.0995	0.039908	-0.0012	0.003154	0.00097	-11.027	1.800	6.213	0.639	0.089	1.36	-0.217	0.065
12.00	-0.1586	0.039559	-0.004511	0.004849	0.00135	-18.050	2.107	8.452	0.791	0.105	1.64	-0.252	0.087
16.00	-0.2154	0.040073	-0.008287	0.007094	0.00235	-25.066	2.495	10.604	0.923	0.111	2.00	-0.246	0.110
20.00	-0.2699	0.040076	-0.012871	0.010138	0.00560	-32.188	2.885	12.595	1.022	0.103	2.47	-0.167	0.139
$\frac{C'_L}{\sigma} = 0.05$													
-4.00	0.0898	0.050225	0.009961	-0.001944	0.00136	10.952	1.538	-0.144	0.229	0.021	0.98	-0.031	0.011
-0.	0.0282	0.050116	0.006163	-0.000418	0.00103	3.811	1.753	2.075	0.393	0.045	1.22	-0.094	0.034
4.00	-0.0326	0.050450	0.002637	0.001195	0.00092	-3.160	2.055	4.399	0.572	0.073	1.47	-0.171	0.052
8.00	-0.0931	0.049906	-0.001212	0.003142	0.00111	-10.162	2.331	6.694	0.736	0.098	1.72	-0.230	0.073
12.00	-0.1517	0.050137	-0.005167	0.005312	0.00177	-17.081	2.676	9.001	0.900	0.117	2.05	-0.255	0.099
16.00	-0.2083	0.049841	-0.009836	0.008098	0.00473	-24.044	3.007	11.226	1.045	0.122	2.51	-0.198	0.140
20.00	-0.2610	0.049638	-0.014602	0.011766	0.01116	-30.878	3.346	13.477	1.178	0.107	3.29	-0.022	0.199
$\frac{C'_L}{\sigma} = 0.06$													
-4.00	0.0976	0.060439	0.013408	-0.003319	0.00163	12.004	2.119	0.500	0.352	0.036	1.37	-0.061	0.020
-0.	0.0358	0.060341	0.008654	-0.001419	0.00128	4.809	2.326	2.698	0.521	0.063	1.59	-0.129	0.041
4.00	-0.0257	0.060084	0.004177	0.000582	0.00107	-2.263	2.571	4.950	0.688	0.087	1.85	-0.186	0.063
8.00	-0.0865	0.059893	-0.000512	0.002927	0.00138	-9.282	2.860	7.194	0.840	0.110	2.10	-0.235	0.084
12.00	-0.1445	0.059955	-0.005242	0.005671	0.00368	-16.112	3.179	9.601	1.028	0.131	2.55	-0.214	0.129
16.00	-0.1990	0.059527	-0.009996	0.009203	0.01146	-22.744	3.452	12.139	1.231	0.132	3.37	-0.036	0.212
20.00	-0.2473	0.059719	-0.014133	0.013746	0.02228	-28.790	3.713	14.942	1.382	0.054	4.89	0.304	0.302
$\frac{C'_L}{\sigma} = 0.07$													
0.	0.0442	0.070153	0.011719	-0.002543	0.00224	5.894	2.876	3.457	0.686	0.087	2.02	-0.150	0.057
4.00	-0.0165	0.070271	0.0063	-0.000159	0.00322	-1.086	3.117	5.854	0.911	0.127	2.39	-0.176	0.094
8.00	-0.0791	0.069501	0.000915	0.002751	0.00449	-8.233	3.336	7.995	1.041	0.145	2.68	-0.189	0.120
12.00	-0.1319	0.069521	-0.003696	0.006537	0.01499	-14.496	3.569	10.898	1.326	0.147	3.76	0.061	0.247
16.00	-0.1801	0.069725	-0.0077	0.0110	0.02714	-20.231	3.810	13.994	1.510	0.045	5.40	0.372	0.337
20.00	-0.2283	0.069809	-0.011855	0.016368	0.03604	-26.228	4.109	16.616	1.525	-0.066	6.86	0.576	0.344

TABLE 1. - Continued

CALCULATED CHARACTERISTICS OF A ROTOR HAVING RECTANGULAR BLADES WITH A LINEAR TWIST OF -8°

(p) $\frac{V}{\Omega R} = 0.50$; $M_{(1.0, 90°)} = 0.8$ - Concluded

$\theta_{.75R}$, deg	λ	$\frac{C'_L}{\sigma}$	$\frac{C'_D}{\sigma}$	$\frac{C_Q}{\sigma}$	$\frac{bC_{Q,D}}{\sigma}$	α_c, deg	a_0, deg	a_1, deg	a_2, deg	a_3, deg	b_1, deg	b_2, deg	b_3, deg
$\frac{C'_L}{\sigma} = 0.074$													
0.	0.0485	0.074203	0.013234	-0.002979	0.00343	6.436	3.106	3.890	0.785	0.104	2.24	-0.152	0.070
4.00	-0.0113	0.073720	0.007675	-0.000105	0.00701	-0.455	3.308	6.441	1.063	0.153	2.72	-0.147	0.117
8.00	-0.0666	0.073703	0.0026	0.003562	0.01638	-6.813	3.499	9.355	1.360	0.153	3.72	0.043	0.235
$\frac{C'_L}{\sigma} = 0.078$													
0.	0.0545	0.078453	0.0148	-0.003190	0.00655	7.113	3.336	4.590	0.956	0.134	2.61	-0.131	0.102
4.00	-0.0029	0.077719	0.009504	0.000291	0.01394	0.561	3.500	7.384	1.259	0.157	3.35	-0.039	0.189
8.00	-0.0569	0.077572	0.0046	0.004341	0.02363	-5.654	3.687	10.325	1.493	0.108	4.45	0.142	0.296
$\frac{C'_L}{\sigma} = 0.08$													
0.	0.0583	0.079700	0.015668	-0.003248	0.00749	7.407	3.418	4.753	0.985	0.136	2.69	-0.127	0.104
4.00	0.0021	0.079613	0.010430	0.000523	0.01685	1.041	3.600	7.794	1.324	0.149	3.61	-0.004	0.217
8.00	-0.0526	0.079587	0.005797	0.004689	0.02608	-5.141	3.795	10.725	1.533	0.087	4.73	0.166	0.317

TABLE 1.- Continued

CALCULATED CHARACTERISTICS OF A ROTOR HAVING RECTANGULAR BLADES WITH A LINEAR TWIST OF -8°

(q) $\frac{V}{\Omega R} = 0.50$; $M_{(1.0,90°)} = 0.9$

$\theta_{.75R}$, deg	λ	$\frac{C'_L}{\sigma}$	$\frac{C'_D}{\sigma}$	$\frac{C_Q}{\sigma}$	$\frac{bC_{Q,D}}{\sigma}$	α_c, deg	a_0, deg	a_1, deg	a_2, deg	a_3, deg	b_1, deg	b_2, deg	b_3, deg
$\frac{C'_L}{\sigma} = 0$													
-4.00	0.0555	0.000119	0.002338	0.003207	0.00090	6.382	-1.144	-2.799	-0.323	-0.050	-0.84	0.102	-0.045
-0.	-0.0048	-0.000144	0.002838	0.002667	0.00080	-0.553	-0.856	-0.402	-0.122	-0.015	-0.57	0.012	-0.020
4.00	-0.0659	-0.000458	0.003479	0.002197	0.00081	-7.566	-0.606	1.916	0.058	0.018	-0.32	-0.070	0.008
8.00	-0.1257	-0.000167	0.003840	0.002001	0.00092	-14.561	-0.304	4.248	0.249	0.050	-0.03	-0.150	0.033
12.00	-0.1848	0.000172	0.003909	0.002115	0.00109	-21.677	0.011	6.448	0.418	0.075	0.26	-0.218	0.051
16.00	-0.2426	-0.000067	0.003773	0.002453	0.00135	-29.049	0.305	8.429	0.551	0.086	0.52	-0.253	0.067
20.00	-0.2986	0.000067	0.003104	0.003236	0.00190	-36.693	0.656	10.106	0.636	0.086	0.77	-0.267	0.071
$\frac{C'_L}{\sigma} = 0.01$													
-4.00	0.0620	0.010345	0.003094	0.002800	0.00089	7.258	-0.598	-2.291	-0.218	-0.038	-0.47	0.079	-0.037
-0.	0.0013	0.009766	0.002718	0.002706	0.00080	0.262	-0.335	0.067	-0.026	-0.004	-0.21	-0.008	-0.013
4.00	-0.0596	0.009586	0.002478	0.002683	0.00080	-6.724	-0.073	2.409	0.158	0.030	0.04	-0.093	0.015
8.00	-0.1207	0.009926	0.002321	0.003014	0.00089	-13.533	0.226	4.830	0.358	0.064	0.34	-0.177	0.041
12.00	-0.1783	0.010324	0.001244	0.003410	0.00107	-20.765	0.575	6.970	0.517	0.086	0.62	-0.240	0.058
16.00	-0.2361	0.010062	0.000154	0.004224	0.00146	-28.066	0.884	8.977	0.647	0.096	0.90	-0.267	0.076
20.00	-0.2920	0.010164	-0.001648	0.005595	0.00217	-35.592	1.259	10.705	0.730	0.094	1.16	-0.272	0.083
$\frac{C'_L}{\sigma} = 0.02$													
-4.00	0.0683	0.019946	0.004292	0.002246	0.00095	8.075	-0.085	-1.804	-0.119	-0.027	-0.12	0.059	-0.029
-0.	0.0075	0.019854	0.003097	0.002520	0.00080	1.087	0.192	0.538	0.070	0.007	0.14	-0.028	-0.005
4.00	-0.0533	0.019666	0.001965	0.002955	0.00081	-5.885	0.460	2.898	0.258	0.041	0.40	-0.114	0.022
8.00	-0.1132	0.019865	0.000751	0.003540	0.00089	-12.842	0.771	5.245	0.447	0.073	0.70	-0.190	0.049
12.00	-0.1722	0.020204	-0.000849	0.004473	0.00113	-19.879	1.114	7.478	0.612	0.096	0.98	-0.255	0.068
16.00	-0.2298	0.020113	-0.002889	0.005778	0.00172	-27.108	1.448	9.516	0.742	0.106	1.28	-0.277	0.088
20.00	-0.2853	0.020163	-0.005691	0.007705	0.00283	-34.503	1.830	11.317	0.827	0.100	1.60	-0.253	0.104
$\frac{C'_L}{\sigma} = 0.03$													
-4.00	0.0749	0.029967	0.005970	0.001424	0.00103	8.976	0.454	-1.277	-0.011	-0.015	0.25	0.035	-0.018
-0.	0.0140	0.030226	0.003969	0.002075	0.00083	1.955	0.738	1.030	0.171	0.019	0.51	-0.050	0.004
4.00	-0.0469	0.029788	0.001927	0.002966	0.00082	-5.043	0.997	3.384	0.359	0.053	0.77	-0.136	0.030
8.00	-0.1069	0.029863	-0.000111	0.003968	0.00092	-12.005	1.306	5.725	0.544	0.084	1.06	-0.209	0.057
12.00	-0.1687	0.029781	-0.0029	0.005436	0.00133	-18.752	1.601	8.153	0.741	0.113	1.38	-0.277	0.084
16.00	-0.2319	0.029740	-0.0057	0.007362	0.00259	-25.135	1.882	10.686	0.954	0.135	1.82	-0.301	0.125
20.00	-0.2784	0.030183	-0.009106	0.009673	0.00426	-33.413	2.384	11.938	0.923	0.102	2.08	-0.227	0.124

TABLE 1. - Continued

CALCULATED CHARACTERISTICS OF A ROTOR HAVING RECTANGULAR BLADES WITH A LINEAR TWIST OF -8°

(q) $\frac{V}{\Omega R}$ = 0.50; $M_{(1.0, 90°)}$ = 0.9 - Continued

$\theta_{.75R}$, deg	λ	$\frac{C'_L}{\sigma}$	$\frac{C'_D}{\sigma}$	$\frac{C_Q}{\sigma}$	$\frac{bC_{Q,D}}{\sigma}$	α_c, deg	a_0, deg	a_1, deg	a_2, deg	a_3, deg	b_1, deg	b_2, deg	b_3, deg
$\frac{C'_L}{\sigma}$ = 0.04													
-4.00	0.0817	0.040026	0.008205	0.000423	0.00115	9.884	1.004	-0.737	0.096	-0.001	0.62	0.010	-0.008
-0.	0.0203	0.040020	0.005291	0.001499	0.00088	2.789	1.255	1.523	0.271	0.031	0.87	-0.071	0.013
4.00	-0.0406	0.039898	0.002454	0.002769	0.00085	-4.197	1.536	3.877	0.460	0.064	1.13	-0.157	0.037
8.00	-0.1007	0.039882	-0.000457	0.004225	0.00102	-11.165	1.851	6.208	0.641	0.096	1.41	-0.234	0.061
12.00	-0.1621	0.040137	-0.0040	0.006129	0.00175	-17.890	2.158	8.685	0.848	0.124	1.80	-0.280	0.097
16.00	-0.2163	0.040133	-0.007394	0.008333	0.00338	-25.207	2.542	10.618	0.943	0.122	2.14	-0.248	0.125
20.00	-0.2708	0.040031	-0.011854	0.011571	0.00706	-32.299	2.914	12.629	1.042	0.108	2.66	-0.156	0.161
$\frac{C'_L}{\sigma}$ = 0.05													
-4.00	0.0888	0.050130	0.010989	-0.000774	0.00130	10.843	1.575	-0.153	0.214	0.016	1.00	-0.021	0.001
-0.	0.0271	0.050072	0.007139	0.000711	0.00101	3.681	1.795	2.068	0.382	0.044	1.24	-0.095	0.024
4.00	-0.0339	0.050356	0.003559	0.002321	0.00094	-3.313	2.098	4.395	0.567	0.077	1.52	-0.180	0.045
8.00	-0.0945	0.049856	-0.000296	0.004269	0.00126	-10.322	2.382	6.695	0.740	0.107	1.78	-0.247	0.070
12.00	-0.1564	0.050038	-0.0045	0.006655	0.00269	-17.031	2.682	9.226	0.958	0.134	2.24	-0.266	0.118
16.00	-0.2092	0.049721	-0.008669	0.009510	0.00593	-24.185	3.038	11.255	1.063	0.128	2.69	-0.186	0.161
20.00	-0.2618	0.049626	-0.013490	0.013426	0.01247	-30.980	3.373	13.510	1.189	0.104	3.49	-0.011	0.218
$\frac{C'_L}{\sigma}$ = 0.06													
-4.00	0.0966	0.060432	0.014412	-0.002168	0.00162	11.879	2.165	0.491	0.339	0.033	1.39	-0.056	0.011
-0.	0.0344	0.060323	0.009597	-0.000293	0.00125	4.649	2.371	2.685	0.511	0.063	1.63	-0.131	0.032
4.00	-0.0273	0.060060	0.005074	0.001727	0.00113	-2.440	2.616	4.943	0.684	0.092	1.90	-0.194	0.059
8.00	-0.0880	0.059851	0.000385	0.004133	0.00175	-9.452	2.908	7.213	0.849	0.119	2.19	-0.246	0.086
12.00	-0.1457	0.059894	-0.0041	0.007088	0.00477	-16.251	3.217	9.651	1.047	0.138	2.71	-0.205	0.145
16.00	-0.1995	0.059842	-0.008857	0.010963	0.01312	-22.798	3.500	12.225	1.248	0.127	3.61	-0.018	0.230
20.00	-0.2481	0.059771	-0.012911	0.015731	0.02356	-28.944	3.752	14.945	1.380	0.050	5.04	0.295	0.309
$\frac{C'_L}{\sigma}$ = 0.07													
0.	0.0428	0.070258	0.012664	-0.001384	0.00230	5.732	2.926	3.465	0.684	0.092	2.08	-0.151	0.054
4.00	-0.0181	0.070408	0.007445	0.001101	0.00344	-1.274	3.184	5.835	0.905	0.132	2.46	-0.193	0.084
8.00	-0.0791	0.070001	0.002144	0.004301	0.00703	-8.230	3.388	8.215	1.102	0.158	2.97	-0.135	0.154
12.00	-0.1330	0.069605	-0.002585	0.008272	0.01658	-14.623	3.618	10.930	1.326	0.140	3.94	0.067	0.257
16.00	-0.1819	0.069508	-0.0065	0.0129	0.02762	-20.481	3.839	13.950	1.494	0.042	5.50	0.368	0.345
20.00	-0.2299	0.069852	-0.010600	0.018566	0.03656	-26.476	4.158	16.596	1.512	-0.065	6.90	0.554	0.345

TABLE 1. - Concluded

CALCULATED CHARACTERISTICS OF A ROTOR HAVING RECTANGULAR BLADES WITH A LINEAR TWIST OF -8°

(q) $\frac{V}{\Omega R} = 0.50$; $M_{(1.0,90°)} = 0.9$ - Concluded

$\theta_{.75R}$, deg	λ	$\frac{C'_L}{\sigma}$	$\frac{C'_D}{\sigma}$	$\frac{C_Q}{\sigma}$	$\frac{bC_{Q,D}}{\sigma}$	α_c, deg	a_0, deg	a_1, deg	a_2, deg	a_3, deg	b_1, deg	b_2, deg	b_3, deg
$\frac{C'_L}{\sigma} = 0.074$													
0.	0.0470	0.074166	0.0139	-0.001741	0.00365	6.268	3.153	3.903	0.786	0.110	2.31	-0.155	0.066
4.00	-0.0121	0.073936	0.008666	0.001236	0.01793	-0.542	3.360	6.471	1.066	0.154	2.88	-0.121	0.131
8.00	-0.0678	0.073731	0.0038	0.005258	0.01792	-6.953	3.546	9.373	1.355	0.147	3.89	0.054	0.241
$\frac{C'_L}{\sigma} = 0.078$													
0.	0.0533	0.078345	0.0157	-0.0016	0.00689	7.039	3.382	4.595	0.947	0.134	2.69	-0.119	0.103
4.00	-0.0039	0.077637	0.010556	0.001948	0.01524	0.445	3.545	7.440	1.262	0.153	3.51	-0.030	0.195
8.00	-0.0581	0.077579	0.006122	0.0064	0.02475	-5.791	3.740	10.363	1.489	0.101	4.62	0.142	0.297
$\frac{C'_L}{\sigma} = 0.08$													
0.	0.0558	0.079741	0.016700	-0.001657	0.00904	7.285	3.461	4.932	1.022	0.141	2.87	-0.110	0.117
4.00	0.0005	0.079626	0.011611	0.002290	0.01832	0.971	3.651	7.890	1.328	0.141	3.80	0.008	0.225
8.00	-0.0537	0.079615	0.007090	0.006648	0.02725	-5.266	3.851	10.783	1.529	0.081	4.90	0.161	0.318

TABLE 2

CALCULATED CHARACTERISTICS OF A ROTOR HAVING RECTANGULAR BLADES WITH A LINEAR TWIST OF -4°

(a) $\frac{V}{\Omega R} = 0.25$; $M_{(1.0,\,90°)} = 0.7$

$\theta_{.75R}$, deg	λ	$\frac{C'_L}{\sigma}$	$\frac{C'_D}{\sigma}$	$\frac{C_Q}{\sigma}$	$\frac{bC_{Q,D}}{\sigma}$	α_c, deg	a_0, deg	a_1, deg	a_2, deg	a_3, deg	b_1, deg	b_2, deg	b_3, deg
$\frac{C'_L}{\sigma} = 0.03$													
-4.00	0.0719	0.030229	0.009375	-0.000907	0.00094	17.307	0.950	-0.561	0.024	0.001	0.32	0.013	0.002
-0.	0.0191	0.029876	0.003978	0.000428	0.00073	5.782	1.170	0.675	0.081	0.003	0.40	0.001	0.007
4.00	-0.0321	0.029803	-0.001508	0.001790	0.00073	-5.996	1.478	1.997	0.151	0.007	0.52	-0.010	0.014
8.00	-0.0823	0.029766	-0.007297	0.003271	0.00086	-17.755	1.851	3.240	0.215	0.015	0.64	-0.010	0.025
12.00	-0.1312	0.029858	-0.014478	0.005223	0.00114	-29.935	2.317	4.205	0.238	0.013	0.73	-0.015	0.023
16.00	-0.1774	0.029717	-0.024422	0.008099	0.00163	-42.845	2.948	4.752	0.224	0.010	0.78	-0.007	0.020
$\frac{C'_L}{\sigma} = 0.04$													
-4.00	0.0792	0.040003	0.014847	-0.001986	0.00105	20.385	1.955	-0.246	0.059	0.003	0.50	0.018	0.007
-0.	0.0263	0.040122	0.006870	-0.000130	0.00076	7.938	1.745	0.929	0.114	0.005	0.59	0.003	0.009
4.00	-0.0254	0.039899	-0.000667	0.001721	0.00074	-3.992	2.023	2.243	0.183	0.008	0.71	-0.007	0.017
8.00	-0.0756	0.039800	-0.008227	0.003648	0.00088	-15.694	2.395	3.506	0.247	0.015	0.83	-0.009	0.027
12.00	-0.1244	0.039947	-0.017185	0.006061	0.00120	-27.628	2.883	4.522	0.271	0.013	0.91	-0.014	0.026
16.00	-0.1702	0.039924	-0.028857	0.009429	0.00180	-40.028	3.538	5.189	0.265	0.010	0.99	-0.001	0.023
$\frac{C'_L}{\sigma} = 0.05$													
0.	0.0334	0.050035	0.010565	-0.000840	0.00082	10.075	2.318	1.187	0.146	0.006	0.78	0.004	0.011
4.00	-0.0186	0.049989	0.000992	0.001493	0.00077	-1.980	2.571	2.488	0.214	0.009	0.90	-0.004	0.020
8.00	-0.0690	0.049842	-0.008380	0.003878	0.00094	-13.668	2.934	3.769	0.280	0.016	1.01	-0.006	0.029
12.00	-0.1180	0.049501	-0.018868	0.006693	0.00133	-25.516	3.404	4.822	0.303	0.012	1.10	-0.011	0.028
16.00	-0.1634	0.049636	-0.032016	0.010520	0.00224	-37.501	4.068	5.616	0.307	0.008	1.20	0.011	0.029
$\frac{C'_L}{\sigma} = 0.06$													
0.	0.0410	0.059974	0.015278	-0.001732	0.00092	12.335	2.916	1.459	0.180	0.007	0.97	0.004	0.014
4.00	-0.0117	0.060154	0.003524	0.001100	0.00082	0.078	3.131	2.734	0.245	0.011	1.08	-0.001	0.022
8.00	-0.0624	0.059868	-0.007749	0.003963	0.00104	-11.663	3.472	4.030	0.312	0.017	1.20	-0.004	0.032
12.00	-0.1113	0.059608	-0.019822	0.007211	0.00157	-23.336	3.944	5.150	0.343	0.013	1.31	0.000	0.034
16.00	-0.1562	0.059650	-0.034128	0.011460	0.00300	-34.945	4.592	6.109	0.368	0.014	1.44	0.037	0.042

TABLE 2. - Continued

CALCULATED CHARACTERISTICS OF A ROTOR HAVING RECTANGULAR BLADES WITH A LINEAR TWIST OF -4°

(a) $\frac{V}{\Omega R} = 0.25$; $M_{(1.0,90°)} = 0.7$ - Concluded

$\theta_{.75R}$, deg	λ	$\frac{C'_L}{\sigma}$	$\frac{C'_D}{\sigma}$	$\frac{C_Q}{\sigma}$	$\frac{bC_{Q,D}}{\sigma}$	α_c, deg	a_0, deg	a_1, deg	a_2, deg	a_3, deg	b_1, deg	b_2, deg	b_3, deg
$\frac{C'_L}{\sigma} = 0.07$													
0.	0.0489	0.069936	0.020486	-0.002833	0.00108	14.170	3.531	1.806	0.229	0.010	1.20	0.005	0.020
4.00	-0.0048	0.070010	0.006845	0.000562	0.00092	2.123	3.686	2.976	0.276	0.012	1.27	0.001	0.024
8.00	-0.0560	0.069596	-0.006357	0.003905	0.00120	-9.710	3.994	4.292	0.342	0.015	1.39	-0.002	0.033
12.00	-0.1043	0.069683	-0.019868	0.007584	0.00205	-21.165	4.470	5.506	0.390	0.014	1.53	0.018	0.041
16.00	-0.1486	0.069805	-0.035178	0.012325	0.00432	-32.359	5.097	6.648	0.426	0.011	1.72	0.067	0.050
$\frac{C'_L}{\sigma} = 0.08$													
.	0.0577	0.079696	0.028458	-0.004146	0.00158	17.404	4.207	2.078	0.259	0.014	1.36	0.007	0.023
4.00	0.0026	0.080121	0.011188	-0.000150	0.00106	4.306	4.274	3.239	0.307	0.010	1.46	-0.001	0.025
8.00	-0.0489	0.079948	-0.004007	0.003688	0.00149	-7.597	4.552	4.587	0.383	0.017	1.61	0.011	0.038
12.00	-0.0971	0.079637	-0.018930	0.007812	0.00285	-18.953	4.975	5.923	0.453	0.019	1.80	0.055	0.056
16.00	-0.1402	0.079735	-0.034977	0.013264	0.00691	-29.654	5.547	7.319	0.497	0.004	2.10	0.132	0.068
$\frac{C'_L}{\sigma} = 0.09$													
4.00	0.0108	0.090216	0.016795	-0.001058	0.00136	6.700	4.891	3.563	0.354	0.014	1.67	0.005	0.030
8.00	-0.0412	0.090358	-0.000562	0.003305	0.00209	-5.369	5.115	4.929	0.433	0.019	1.85	0.035	0.047
12.00	-0.0898	0.089757	-0.01640	0.008034	0.00493	-16.262	5.460	6.669	0.555	0.015	2.22	0.109	0.077
16.00	-0.1285	0.089635	-0.032175	0.014509	0.01392	-26.178	5.916	8.462	0.630	-0.009	2.81	0.291	0.183
$\frac{C'_L}{\sigma} = 0.10$													
4.00	0.0204	0.099824	0.024199	-0.002150	0.00252	9.545	5.524	4.064	0.447	0.026	1.94	0.032	0.044
8.00	-0.0327	0.100463	0.004215	0.002802	0.00333	-2.935	5.666	5.388	0.507	0.021	2.16	0.078	0.062
12.00	-0.0787	0.099612	-0.013206	0.008639	0.00983	-13.693	5.930	7.216	0.626	0.006	2.64	0.213	0.099

TABLE 2. - Continued

CALCULATED CHARACTERISTICS OF A ROTOR HAVING RECTANGULAR BLADES WITH A LINEAR TWIST OF -4°

(b) $\frac{V}{\Omega R} = 0.25$; $M_{(1.0,90°)} = 0.8$

$\theta_{.75R}$, deg	λ	$\frac{C'_L}{\sigma}$	$\frac{C'_D}{\sigma}$	$\frac{C_Q}{\sigma}$	$\frac{bC_{Q,D}}{\sigma}$	α_c, deg	a_0, deg	a_1, deg	a_2, deg	a_3, deg	b_1, deg	b_2, deg	b_3, deg
$\frac{C'_L}{\sigma} = 0.03$													
-4.00	0.0712	0.030075	0.009793	-0.000803	0.00094	18.015	0.994	-0.570	0.022	0.000	0.31	0.010	0.001
0.	0.0185	0.029819	0.003968	0.000525	0.00073	5.650	1.222	0.666	0.085	0.005	0.42	-0.002	0.008
4.00	-0.0332	0.029524	-0.001549	0.001892	0.00074	-6.258	1.532	2.003	0.157	0.010	0.54	-0.018	0.016
8.00	-0.0835	0.029917	-0.007407	0.003446	0.00088	-18.057	1.945	3.251	0.214	0.012	0.67	-0.028	0.022
12.00	-0.1328	0.029835	-0.014613	0.005530	0.00127	-30.361	2.416	4.242	0.246	0.016	0.76	-0.023	0.026
16.00	-0.1790	0.029645	-0.024637	0.008715	0.00213	-43.359	3.052	4.806	0.229	0.012	0.82	-0.002	0.022
$\frac{C'_L}{\sigma} = 0.04$													
-4.00	0.0788	0.040387	0.014134	-0.001854	0.00100	19.189	1.608	-0.307	0.059	-0.001	0.53	0.007	0.002
0.	0.0252	0.039793	0.006684	-0.000004	0.00075	7.661	1.784	0.919	0.118	0.006	0.61	-0.001	0.010
4.00	-0.0268	0.039535	-0.000807	0.001856	0.00074	-4.334	2.076	2.253	0.189	0.011	0.73	-0.016	0.019
8.00	-0.0771	0.039937	-0.008410	0.003874	0.00093	-16.054	2.492	3.526	0.249	0.014	0.86	-0.027	0.025
12.00	-0.1261	0.039910	-0.017383	0.006468	0.00146	-28.089	2.984	4.574	0.282	0.018	0.95	-0.020	0.029
16.00	-0.1717	0.039834	-0.029061	0.010203	0.00256	-40.497	3.636	5.295	0.273	0.011	1.04	0.009	0.026
$\frac{C'_L}{\sigma} = 0.05$													
0.	0.0321	0.049847	0.010324	-0.000699	0.00081	9.770	2.367	1.183	0.151	0.008	0.79	-0.002	0.013
4.00	-0.0203	0.049612	0.000731	0.001672	0.00078	-2.387	2.627	2.504	0.222	0.013	0.92	-0.014	0.022
8.00	-0.0708	0.049951	-0.008634	0.004163	0.00105	-14.082	3.034	3.800	0.284	0.016	1.05	-0.024	0.029
12.00	-0.1195	0.049939	-0.019180	0.007241	0.00177	-25.880	3.530	4.919	0.321	0.018	1.16	-0.010	0.033
16.00	-0.1643	0.049962	-0.032236	0.011532	0.00342	-37.749	4.174	5.815	0.322	0.008	1.30	0.031	0.032
$\frac{C'_L}{\sigma} = 0.06$													
0.	0.0393	0.059875	0.014950	-0.001568	0.00090	11.976	2.972	1.460	0.185	0.010	0.99	-0.003	0.016
4.00	-0.0136	0.059822	0.003129	0.001333	0.00086	-0.388	3.193	2.758	0.254	0.014	1.11	-0.012	0.025
8.00	-0.0644	0.059801	-0.008065	0.004315	0.00126	-12.127	3.562	4.092	0.329	0.023	1.25	-0.010	0.038
12.00	-0.1130	0.059509	-0.020051	0.007867	0.00224	-23.773	4.033	5.275	0.362	0.016	1.39	0.006	0.039
16.00	-0.1570	0.059520	-0.034097	0.012659	0.00478	-35.177	4.653	6.371	0.383	0.011	1.56	0.065	0.047

TABLE 2. - Continued

CALCULATED CHARACTERISTICS OF A ROTOR HAVING RECTANGULAR BLADES WITH A LINEAR TWIST OF -4°

(b) $\frac{V}{\Omega R} = 0.25$; $M_{(1.0,90°)} = 0.8$ - Concluded

$\theta_{.75R}$, deg	λ	$\frac{C'_L}{\sigma}$	$\frac{C'_D}{\sigma}$	$\frac{C_Q}{\sigma}$	$\frac{bC_{Q,D}}{\sigma}$	α_c, deg	a_0, deg	a_1, deg	a_2, deg	a_3, deg	b_1, deg	b_2, deg	b_3, deg
$\frac{C'_L}{\sigma} = 0.07$													
0.	0.0470	0.069969	0.020726	-0.002630	0.00107	14.312	3.608	1.755	0.222	0.012	1.18	-0.005	0.019
4.00	-0.0067	0.070235	0.006500	0.000832	0.00101	1.709	3.780	3.023	0.289	0.016	1.31	-0.009	0.028
8.00	-0.0579	0.069736	-0.006673	0.004358	0.00160	-10.140	4.093	4.389	0.363	0.020	1.46	-0.005	0.038
12.00	-0.1058	0.069596	-0.020020	0.008419	0.00324	-21.519	4.548	5.697	0.413	0.014	1.66	0.037	0.051
16.00	-0.1487	0.069713	-0.034892	0.013804	0.00710	-32.412	5.138	7.021	0.443	0.004	1.87	0.100	0.059
$\frac{C'_L}{\sigma} = 0.08$													
0.	0.0552	0.079722	0.027619	-0.003867	0.00135	16.763	4.264	2.083	0.264	0.015	1.38	-0.008	0.022
4.00	0.0003	0.080144	0.010630	0.000211	0.00128	3.779	4.354	3.296	0.323	0.015	1.51	-0.008	0.030
8.00	-0.0504	0.080448	-0.004192	0.004267	0.00223	-7.917	4.663	4.747	0.412	0.020	1.72	0.021	0.048
12.00	-0.0982	0.079619	-0.018819	0.008889	0.00490	-19.125	5.039	6.214	0.477	0.010	1.98	0.079	0.065
16.00	-0.1388	0.080014	-0.034002	0.015073	0.01079	-29.281	5.581	7.885	0.527	-0.008	2.33	0.172	0.077
$\frac{C'_L}{\sigma} = 0.09$													
0.	0.0657	0.089674	0.037176	-0.005410	0.00230	20.002	5.019	2.569	0.340	0.027	1.62	0.004	0.034
4.00	0.0087	0.090367	0.016324	-0.000619	0.00187	6.223	4.970	3.681	0.384	0.019	1.76	0.011	0.039
8.00	-0.0427	0.090129	-0.000832	0.004084	0.00349	-5.733	5.166	5.141	0.464	0.016	2.01	0.065	0.062
12.00	-0.0889	0.089790	-0.016549	0.009456	0.00785	-16.534	5.523	6.826	0.549	0.005	2.34	0.143	0.085
16.00	-0.1236	0.089578	-0.029293	0.016563	0.01968	-24.974	5.851	9.443	0.692	-0.032	3.34	0.353	0.124
$\frac{C'_L}{\sigma} = 0.10$													
4.00	0.0199	0.100370	0.026771	-0.001483	0.00305	11.079	5.673	3.821	0.388	0.016	1.84	0.031	0.037
8.00	-0.0329	0.100172	0.004409	0.003942	0.00646	-2.996	5.696	5.770	0.558	0.013	2.42	0.137	0.087
12.00	-0.0729	0.099675	-0.010185	0.010764	0.01760	-12.325	5.912	8.226	0.723	-0.020	3.30	0.351	0.131

TABLE 2. - Continued

CALCULATED CHARACTERISTICS OF A ROTOR HAVING RECTANGULAR BLADES WITH A LINEAR TWIST OF -4°

(c) $\frac{V}{\Omega R} = 0.25$; $M_{(1.0,90°)} = 0.9$

$\theta_{.75R}$, deg	λ	$\frac{C'_L}{\sigma}$	$\frac{C'_D}{\sigma}$	$\frac{C_Q}{\sigma}$	$\frac{bC_{Q,D}}{\sigma}$	α_c, deg	a_0, deg	a_1, deg	a_2, deg	a_3, deg	b_1, deg	b_2, deg	b_3, deg
$\frac{C'_L}{\sigma} = 0.03$													
-4.00	0.0708	0.030270	0.010489	-0.000124	0.00093	17.943	1.039	-0.574	0.004	-0.007	0.31	0.011	-0.008
-0.	0.0179	0.030034	0.004598	0.001239	0.00073	5.513	1.279	0.689	0.090	0.008	0.44	-0.003	0.008
4.00	-0.0339	0.030016	-0.000975	0.002661	0.00076	-6.4 8	1.610	2.030	0.177	0.018	0.58	-0.025	0.024
8.00	-0.0849	0.029985	-0.006891	0.004352	0.00099	-18.408	2.005	3.248	0.233	0.016	0.70	-0.046	0.030
12.00	-0.1345	0.029793	-0.014127	0.006671	0.00164	-30.831	2.475	4.254	0.264	0.020	0.80	-0.036	0.037
16.00	-0.1807	0.029552	-0.024158	0.010303	0.00310	-43.855	3.100	4.884	0.242	0.011	0.87	0.002	0.032
$\frac{C'_L}{\sigma} = 0.04$													
-4.00	0.0776	0.039930	0.015325	-0.001200	0.00101	20.077	1.642	-0.278	0.051	0.002	0.51	0.012	0.000
-0.	0.0240	0.039625	0.007139	0.000734	0.00076	7.406	1.822	0.926	0.121	0.008	0.62	-0.006	0.011
4.00	-0.0278	0.040021	-0.000257	0.002678	0.00079	-4.545	2.158	2.284	0.213	0.020	0.77	-0.026	0.028
8.00	-0.0788	0.039989	-0.007956	0.004906	0.00110	-16.458	2.554	3.527	0.270	0.018	0.89	-0.045	0.035
12.00	-0.1279	0.039848	-0.016930	0.007804	0.00204	-28.562	3.038	4.600	0.306	0.019	1.01	-0.026	0.043
16.00	-0.1731	0.039739	-0.028549	0.012051	0.00388	-40.921	3.672	5.405	0.289	0.009	1.10	0.014	0.039
$\frac{C'_L}{\sigma} = 0.05$													
0.	0.0308	0.050015	0.010774	0.000055	0.00082	9.451	2.429	1.208	0.162	0.013	0.82	-0.009	0.016
4.00	-0.0216	0.050026	0.001231	0.002574	0.00086	-2.672	2.710	2.538	0.248	0.022	0.96	-0.026	0.032
8.00	-0.0726	0.049949	-0.008236	0.005333	0.00135	-14.524	3.094	3.812	0.308	0.020	1.09	-0.039	0.041
12.00	-0.1212	0.049864	-0.018726	0.008788	0.00267	-26.321	3.575	4.970	0.349	0.019	1.23	-0.010	0.051
16.00	-0.1653	0.049874	-0.031616	0.013633	0.00514	-38.064	4.196	5.974	0.345	0.007	1.36	0.038	0.047
$\frac{C'_L}{\sigma} = 0.06$													
0.	0.0373	0.059580	0.015070	-0.00090	0.00092	11.521	3.008	1.463	0.194	0.013	1.00	-0.013	0.019
4.00	-0.0154	0.060015	0.003489	0.002349	0.00101	-0.786	3.266	2.788	0.280	0.021	1.15	-0.027	0.035
8.00	-0.0663	0.059748	-0.007718	0.005644	0.00180	-12.585	3.616	4.124	0.356	0.026	1.32	-0.019	0.053
12.00	-0.1145	0.059508	-0.019501	0.009636	0.00352	-24.109	4.072	5.374	0.396	0.015	1.48	0.011	0.059
16.00	-0.1571	0.059942	-0.033336	0.015099	0.00725	-35.192	4.681	6.616	0.413	0.005	1.67	0.078	0.060

TABLE 2. - Continued

CALCULATED CHARACTERISTICS OF A ROTOR HAVING RECTANGULAR BLADES WITH A LINEAR TWIST OF -4°

(c) $\frac{V}{\Omega R} = 0.25$; $M_{(1.0,90°)} = 0.9$ - Concluded

$\theta_{.75R}$, deg	λ	$\frac{C'_L}{\sigma}$	$\frac{C'_D}{\sigma}$	$\frac{C_Q}{\sigma}$	$\frac{bC_{Q,D}}{\sigma}$	α_c, deg	a_0, deg	a_1, deg	a_2, deg	a_3, deg	b_1, deg	b_2, deg	b_3, deg
$\frac{C'_L}{\sigma} = 0.07$													
0.	0.0450	0.070274	0.021001	-0.001774	0.00113	13.893	3.680	1.775	0.235	0.015	1.21	-0.018	0.023
4.00	-0.0088	0.070201	0.006665	0.001989	0.00130	1.210	3.840	3.054	0.313	0.021	1.36	-0.023	0.039
8.00	-0.0593	0.070418	-0.006166	0.005891	0.00257	-10.418	4.182	4.489	0.400	0.022	1.57	-0.007	0.058
12.00	-0.1068	0.069834	-0.019065	0.010490	0.00523	-21.560	4.575	5.916	0.461	0.009	1.81	0.049	0.073
16.00	-0.1485	0.069606	-0.033779	0.016401	0.01002	-32.404	5.117	7.297	0.474	-0.004	1.99	0.117	0.072
$\frac{C'_L}{\sigma} = 0.08$													
0.	0.0531	0.080136	0.027885	-0.002900	0.00156	16.345	4.344	2.125	0.282	0.018	1.43	-0.019	0.029
4.00	-0.0018	0.080241	0.010794	0.001519	0.00187	3.293	4.412	3.361	0.351	0.017	1.59	-0.011	0.045
8.00	-0.0520	0.080043	-0.003850	0.006010	0.00362	-8.335	4.683	4.864	0.452	0.021	1.84	0.029	0.071
12.00	-0.0981	0.079941	-0.017855	0.011280	0.00786	-19.103	5.059	6.469	0.524	0.003	2.15	0.103	0.089
16.00	-0.1377	0.079747	-0.032334	0.017737	0.01365	-29.058	5.518	8.255	0.566	-0.017	2.52	0.203	0.097
$\frac{C'_L}{\sigma} = 0.09$													
0.	0.0634	0.089541	0.036577	-0.004119	0.00307	19.256	5.047	2.702	0.376	0.027	1.72	0.002	0.045
4.00	0.0069	0.090207	0.016544	0.000910	0.00313	5.796	5.007	3.835	0.432	0.024	1.89	0.025	0.063
8.00	-0.0431	0.090361	0.000047	0.006132	0.00605	-5.814	5.213	5.399	0.525	0.015	2.20	0.084	0.090
12.00	-0.0880	0.089714	-0.015169	0.012094	0.01139	-16.346	5.509	7.176	0.599	-0.007	2.56	0.168	0.106
$\frac{C'_L}{\sigma} = 0.10$													
4.00	0.0201	0.100226	0.028706	0.000198	0.00549	11.826	5.742	4.103	0.437	0.020	1.98	0.067	0.064
8.00	-0.0311	0.099835	0.005997	0.006597	0.01160	-2.610	5.691	6.275	0.642	0.004	2.74	0.185	0.121

TABLE 2. Continued

CALCULATED CHARACTERISTICS OF A ROTOR HAVING RECTANGULAR BLADES WITH A LINEAR TWIST OF -4°

(d) $\frac{V}{\Omega R} = 0.30$; $M_{(1.0,90°)} = 0.7$

$\theta_{.75R}$, deg	λ	$\frac{C'_L}{\sigma}$	$\frac{C'_D}{\sigma}$	$\frac{C_Q}{\sigma}$	$\frac{bC_{Q,D}}{\sigma}$	α_c, deg	a_0, deg	a_1, deg	a_2, deg	a_3, deg	b_1, deg	b_2, deg	b_3, deg
$\frac{C'_L}{\sigma} = 0.03$													
-4.00	0.0726	0.030197	0.008111	-0.000834	0.00088	15.019	0.901	-0.649	0.029	0.000	0.34	0.015	0.000
-0.	0.0190	0.030040	0.003555	0.000423	0.00068	4.606	1.134	0.804	0.114	0.006	0.47	0.002	0.011
4.00	-0.0337	0.029878	-0.000945	0.001756	0.00068	-5.494	1.428	2.349	0.210	0.011	0.62	-0.013	0.024
8.00	-0.0855	0.029808	-0.005631	0.003187	0.00081	-15.578	1.774	3.834	0.298	0.020	0.76	-0.020	0.037
12.00	-0.1363	0.029949	-0.011335	0.005031	0.00110	-25.924	2.189	5.092	0.345	0.018	0.88	-0.026	0.038
16.00	-0.1853	0.029543	-0.018493	0.007490	0.00159	-36.832	2.679	5.996	0.349	0.013	0.97	-0.019	0.034
$\frac{C'_L}{\sigma} = 0.04$													
-4.00	0.0801	0.040365	0.012290	-0.001901	0.00099	16.852	1.491	0.313	0.075	0.001	0.58	0.019	0.007
-0.	0.0260	0.040130	0.005932	-0.000155	0.00072	6.294	1.695	1.105	0.160	0.008	0.70	0.004	0.015
4.00	-0.0269	0.039973	-0.000196	0.001646	0.00070	-3.878	1.972	2.641	0.253	0.013	0.84	-0.009	0.028
8.00	-0.0788	0.039842	-0.006376	0.003523	0.00084	-13.930	2.317	4.140	0.342	0.021	0.98	-0.016	0.041
12.00	-0.1298	0.039501	-0.013433	0.005771	0.00117	-24.225	2.719	5.421	0.387	0.018	1.09	-0.022	0.042
16.00	-0.1782	0.039690	-0.022318	0.008780	0.00187	-34.771	3.259	6.429	0.402	0.015	1.21	-0.007	0.042
$\frac{C'_L}{\sigma} = 0.05$													
0.	0.0332	0.050040	0.009002	-0.000893	0.00078	8.003	2.260	1.416	0.206	0.010	0.92	0.005	0.019
4.00	-0.0261	0.050075	0.001261	0.001363	0.00074	-2.253	2.520	2.932	0.297	0.015	1.06	-0.005	0.032
8.00	-0.0722	0.049867	-0.006449	0.003700	0.00092	-12.304	2.857	4.443	0.387	0.023	1.21	-0.012	0.045
12.00	-0.1230	0.049572	-0.014924	0.006385	0.00134	-22.472	3.269	5.772	0.437	0.020	1.33	-0.014	0.048
16.00	-0.1711	0.049656	-0.025037	0.009819	0.00234	-32.763	3.812	6.900	0.470	0.021	1.48	0.017	0.055
$\frac{C'_L}{\sigma} = 0.06$													
0.	0.0407	0.060057	0.012900	-0.001813	0.00091	9.794	2.845	1.744	0.255	0.012	1.15	0.007	0.024
4.00	-0.0132	0.060219	0.003455	0.000903	0.00082	-0.631	3.077	3.226	0.342	0.017	1.29	-0.001	0.036
8.00	-0.0655	0.059890	-0.005838	0.003715	0.00106	-10.682	3.396	4.748	0.432	0.024	1.43	-0.006	0.049
12.00	-0.1161	0.059648	-0.015635	0.006826	0.00168	-20.726	3.811	6.142	0.490	0.022	1.58	0.002	0.057
16.00	-0.1637	0.059779	-0.026957	0.010757	0.00319	-30.745	4.352	7.395	0.531	0.019	1.78	0.048	0.066

TABLE 2. - Continued

CALCULATED CHARACTERISTICS OF A ROTOR HAVING RECTANGULAR BLADES WITH A LINEAR TWIST OF -4°

(d) $\frac{V}{\Omega R} = 0.30$; $M_{(1.0,90°)} = 0.7$ - Concluded

$\theta_{.75R}$, deg	λ	$\frac{C'_L}{\sigma}$	$\frac{C'_D}{\sigma}$	$\frac{C_Q}{\sigma}$	$\frac{bC_{Q,D}}{\sigma}$	α_c, deg	a_0, deg	a_1, deg	a_2, deg	a_3, deg	b_1, deg	b_2, deg	b_3, deg
$\frac{C'_L}{\sigma} = 0.07$													
0.	0.0489	0.070449	0.017580	-0.002987	0.00115	11.462	3.470	2.155	0.323	0.016	1.42	0.008	0.032
4.00	-0.0062	0.070097	0.006314	0.000293	0.00093	1.053	3.631	3.525	0.387	0.019	1.52	0.002	0.040
8.00	-0.0589	0.069668	-0.004566	0.003574	0.00127	-9.089	3.923	5.056	0.476	0.024	1.67	0.002	0.054
12.00	-0.1091	0.069556	-0.015579	0.007112	0.00224	-18.975	4.333	6.553	0.560	0.029	1.87	0.035	0.073
16.00	-0.1558	0.069795	-0.027945	0.011702	0.00524	-28.670	4.853	7.980	0.604	0.011	2.16	0.109	0.085
$\frac{C'_L}{\sigma} = 0.08$													
0.	0.0568	0.079529	0.023203	-0.004177	0.00151	13.595	4.056	2.483	0.369	0.020	1.61	0.006	0.035
4.00	0.0013	0.080104	0.010012	-0.000493	0.00114	2.819	4.210	3.864	0.440	0.021	1.75	0.005	0.045
8.00	-0.0516	0.079991	-0.002439	0.003257	0.00169	-7.362	4.480	5.408	0.533	0.026	1.94	0.022	0.063
12.00	-0.1023	0.079912	-0.01440	0.00750	0.00406	-16.744	4.843	7.285	0.671	0.024	2.33	0.095	0.099
16.00	-0.1458	0.079715	-0.027335	0.012788	0.01061	-26.192	5.299	8.863	0.720	0.001	2.77	0.244	0.121
$\frac{C'_L}{\sigma} = 0.09$													
0.	0.0672	0.089704	0.030847	-0.005758	0.00264	16.106	4.769	3.033	0.463	0.033	1.88	0.014	0.046
4.00	0.0105	0.090427	0.015350	-0.001433	0.00167	5.218	4.842	4.178	0.492	0.028	1.96	0.017	0.050
8.00	-0. 437	0.090172	0.000640	0.002783	0.00257	-5.524	5.021	5.842	0.607	0.028	2.27	0.069	0.081
12.00	-0.0920	0.089858	-0.012644	0.007831	0.00811	-14.931	5.358	7.705	0.733	0.016	2.71	0.181	0.116
$\frac{C'_L}{\sigma} = 0.10$													
0.	0.0744	0.094518	0.035795	-0.006470	0.00468	17.749	5.133	3.597	0.476	0.046	2.02	-0.100	0.013
4.00	0.0159	0.094594	0.018141	-0.001844	0.00408	6.111	5.109	4.858	0.545	0.052	2.16	-0.111	0.015
8.00	-0.0388	0.094713	0.002834	0.002764	0.00479	-4.436	5.274	6.302	0.603	0.056	2.39	-0.068	0.041

TABLE 2. - Continued

CALCULATED CHARACTERISTICS OF A ROTOR HAVING RECTANGULAR BLADES WITH A LINEAR TWIST OF -4°

(e) $\frac{V}{\Omega R} = 0.30$; $M_{(1.0,90°)} = 0.8$

$\theta_{.75R}$, deg	λ	$\frac{C'_L}{\sigma}$	$\frac{C'_D}{\sigma}$	$\frac{C_Q}{\sigma}$	$\frac{bC_{Q,D}}{\sigma}$	α_c, deg	a_0, deg	a_1, deg	a_2, deg	a_3, deg	b_1, deg	b_2, deg	b_3, deg
$\frac{C'_L}{\sigma} = 0.03$													
-4.00	0.0723	0.030440	0.008218	-0.000733	0.00086	14.978	0.955	-0.693	0.020	-0.007	0.36	0.013	-0.003
-2.00	0.0184	0.029895	0.003547	0.000533	0.00068	4.481	1.185	0.788	0.119	0.007	0.49	-0.002	0.013
4.00	-0.0346	0.029690	-0.000948	0.001855	0.00068	-5.675	1.489	2.355	0.218	0.015	0.65	-0.023	0.026
8.00	-0.0866	0.029773	-0.005655	0.003321	0.00082	-15.795	1.858	3.866	0.312	0.026	0.81	-0.033	0.041
12.00	-0.1377	0.029936	-0.011399	0.005267	0.00118	-26.212	2.288	5.140	0.360	0.025	0.93	-0.040	0.042
16.00	-0.1865	0.029926	-0.018743	0.008012	0.00193	-37.078	2.810	6.091	0.367	0.019	1.04	-0.020	0.039
$\frac{C'_L}{\sigma} = 0.04$													
-4.00	0.0794	0.040222	0.012219	-0.001768	0.00096	16.713	1.539	-0.350	0.078	0.003	0.59	0.014	0.006
-2.00	0.0252	0.040021	0.005865	-0.000037	0.00071	6.119	1.750	1.094	0.166	0.010	0.72	-0.002	0.017
4.00	-0.0281	0.039749	-0.000272	0.001771	0.00070	-4.117	2.034	2.652	0.263	0.018	0.87	-0.021	0.031
8.00	-0.0802	0.039797	-0.006453	0.003696	0.00089	-14.196	2.404	4.179	0.358	0.029	1.03	-0.030	0.046
12.00	-0.1310	0.039976	-0.013628	0.006119	0.00135	-24.450	2.848	5.503	0.409	0.026	1.16	-0.032	0.048
16.00	-0.1797	0.039577	-0.022358	0.009383	0.00247	-35.079	3.354	6.543	0.417	0.017	1.31	0.002	0.048
$\frac{C'_L}{\sigma} = 0.05$													
-2.00	0.0319	0.049826	0.008819	-0.000750	0.00077	7.751	2.310	1.404	0.212	0.013	0.94	-0.002	0.022
4.00	-0.0216	0.049834	0.001094	0.001522	0.00076	-2.545	2.585	2.949	0.309	0.021	1.10	-0.018	0.035
8.00	-0.0738	0.049816	-0.00690	0.003925	0.00100	-12.614	2.946	4.490	0.405	0.031	1.26	-0.027	0.051
12.00	-0.1243	0.049981	-0.015111	0.006829	0.00169	-22.716	3.392	5.874	0.459	0.027	1.42	-0.015	0.056
16.00	-0.1723	0.049531	-0.025054	0.010603	0.00347	-33.020	3.895	7.068	0.487	0.021	1.61	0.037	0.065
$\frac{C'_L}{\sigma} = 0.06$													
-2.00	0.0392	0.059933	0.012645	-0.001654	0.00089	9.496	2.902	1.737	0.264	0.016	1.18	-0.003	0.027
4.00	-0.0149	0.060024	0.003191	0.001104	0.00086	-0.939	3.147	3.251	0.356	0.023	1.33	-0.016	0.040
8.00	-0.0673	0.059834	-0.00625	0.004005	0.00124	-11.023	3.486	4.809	0.452	0.031	1.50	-0.017	0.057
12.00	-0.1174	0.060002	-0.015771	0.007396	0.00247	-20.953	3.925	6.202	0.516	0.026	1.71	0.011	0.060
16.00	-0.1645	0.059677	-0.026870	0.011754	0.00516	-30.903	4.420	7.539	0.551	0.015	1.95	0.079	0.000

TABLE 2. - Continued

CALCULATED CHARACTERISTICS OF A ROTOR HAVING RECTANGULAR BLADES WITH A LINEAR TWIST OF -4°

(e) $\frac{V}{\Omega R} = 0.30$; $M_{(1.0,90°)} = 0.8$ - Concluded

$\theta_{.75R}$, deg	λ	$\frac{C'_L}{\sigma}$	$\frac{C'_D}{\sigma}$	$\frac{C_Q}{\sigma}$	$\frac{bC_{Q,D}}{\sigma}$	α_c, deg	a_0, deg	a_1, deg	a_2, deg	a_3, deg	b_1, deg	b_2, deg	b_3, deg
$\frac{C'_L}{\sigma} = 0.07$													
0.	0.0469	0.070193	0.017436	-0.002762	0.00111	11.359	3.527	2.102	0.320	0.020	1.42	-0.006	0.032
4.00	-0.0079	0.070366	0.006084	0.000517	0.00104	0.740	3.729	3.572	0.406	0.026	1.57	-0.013	0.046
8.00	-0.0605	0.069967	-0.004739	0.003949	0.00167	-9.373	4.028	5.159	0.502	0.030	1.77	-0.001	0.064
12.00	-0.1100	0.069962	-0.015625	0.007851	[illegible]	-19.135	4.439	6.754	0.588	0.029	2.04	[illegible]	[illegible]
16.00	-0.1557	0.069693	-0.027560	0.012942	[illegible]	-28.648	4.906	8.348	0.633	0.004	2.40	0.157	[illegible]
$\frac{C'_L}{\sigma} = 0.08$													
0.	0.0551	0.080116	0.023094	-0.004024	0.00155	13.310	4.159	2.514	0.385	0.026	1.67	-0.007	0.039
4.00	-0.0007	0.080160	0.009639	-0.000199	0.00137	2.432	4.289	3.923	0.461	0.027	1.83	-0.002	0.054
8.00	-0.0532	0.079999	-0.002641	0.003765	0.00261	-7.656	4.557	5.547	0.561	0.028	2.08	0.039	0.079
12.00	-0.1026	0.080128	-0.01420	0.008375	[illegible]	-16.686	[illegible]	7.949	0.720	0.917	[illegible]	0.149	[illegible]
16.00	-0.1441	0.079713	-0.026293	0.014331	[illegible]	-25.007	[illegible]	9.427	0.799	-0.017	3.66	0.242	[illegible]
$\frac{C'_L}{\sigma} = 0.09$													
0.	0.0651	0.089569	0.030125	-0.005402	0.00296	15.644	4.816	3.102	0.492	0.039	1.97	0.011	0.056
4.00	0.0085	0.090279	0.014685	-0.001104	0.00266	4.536	4.885	4.486	0.572	0.037	2.19	0.043	0.078
8.00	-0.0446	0.090130	0.000635	0.003520	0.00464	-5.686	5.086	6.082	0.649	0.025	2.49	0.107	0.105
12.00	-0.0905	0.089795	-0.011819	0.009210	0.01258	-14.623	5.381	8.213	0.789	-0.000	3.13	0.267	0.149
$\frac{C'_L}{\sigma} = 0.10$													
0.	0.0753	0.094676	0.036268	-0.005863	0.00730	17.938	5.222	4.028	0.574	0.064	2.23	-0.081	0.031
4.00	0.0179	0.094625	0.018363	-0.000914	0.00877	6.504	5.178	5.488	0.690	0.076	2.52	-0.061	0.046
12.00	-0.0534	0.094711	0.000891	0.013270	0.03626	-7.264	5.492	12.353	1.163	-0.046	5.27	0.264	0.224

TABLE 2. - Continued

CALCULATED CHARACTERISTICS OF A ROTOR HAVING RECTANGULAR BLADES WITH A LINEAR TWIST OF -4°

(f) $\frac{V}{\Omega R} = 0.30$; $M_{(1.0,90°)} = 0.9$

$\theta_{.75R}$, deg	λ	$\frac{C'_L}{\sigma}$	$\frac{C'_D}{\sigma}$	$\frac{C_Q}{\sigma}$	$\frac{bC_{Q,D}}{\sigma}$	α_c, deg	a_0, deg	a_1, deg	a_2, deg	a_3, deg	b_1, deg	b_2, deg	b_3, deg
$\frac{C'_L}{\sigma} = 0.03$													
-4.00	0.0718	0.030105	0.008825	0.000042	0.00085	14.878	0.982	-0.678	0.020	-0.000	0.36	0.021	-0.005
-0.	0.0175	0.029647	0.004146	0.001301	0.00067	4.313	1.216	0.791	0.118	0.009	0.51	-0.005	0.011
4.00	-0.0354	0.029996	-0.000311	0.002647	0.00069	-5.820	1.558	2.374	0.234	0.023	0.69	-0.034	0.031
8.00	-0.0879	0.029735	-0.005039	0.004213	0.00087	-16.066	1.911	3.865	0.332	0.034	0.85	-0.052	0.049
12.00	-0.1392	0.029915	-0.010806	0.006335	0.00150	-26.557	2.345	5.143	0.381	0.030	0.99	-0.058	0.056
16.00	-0.1880	0.029857	-0.018140	0.009379	0.00274	-37.470	2.861	6.131	0.386	0.020	1.10	-0.020	0.054
$\frac{C'_L}{\sigma} = 0.04$													
-4.00	0.0786	0.040216	0.012850	-0.001050	0.00093	16.590	1.582	-0.341	0.072	0.004	0.60	0.016	0.001
-0.	0.0240	0.039752	0.006379	0.000747	0.00071	5.891	1.783	1.099	0.168	0.013	0.74	-0.008	0.017
4.00	-0.0292	0.039997	0.000331	0.002609	0.00072	-4.318	2.104	2.673	0.282	0.027	0.91	-0.035	0.037
8.00	-0.0817	0.039759	-0.005878	0.004691	0.00102	-14.505	2.460	4.184	0.381	0.037	1.08	-0.050	0.056
12.00	-0.1326	0.039933	-0.013062	0.007344	0.00192	-24.808	2.903	5.525	0.435	0.032	1.24	-0.046	0.065
16.00	-0.1807	0.039923	-0.021836	0.011052	0.00367	-35.325	3.419	6.642	0.448	0.018	1.40	0.006	0.067
$\frac{C'_L}{\sigma} = 0.05$													
0.	0.0305	0.049647	0.009268	0.000051	0.00077	7.479	2.351	1.412	0.218	0.017	0.97	-0.012	0.023
4.00	-0.0230	0.049996	0.001636	0.002432	0.00081	-2.808	2.653	2.972	0.330	0.029	1.14	-0.035	0.043
8.00	-0.0754	0.049769	-0.006068	0.005042	0.00131	-12.951	3.002	4.506	0.430	0.038	1.32	-0.044	0.064
12.00	-0.1259	0.049920	-0.014535	0.008232	0.00255	-23.050	3.439	5.926	0.493	0.032	1.52	-0.021	0.078
16.00	-0.1729	0.049953	-0.024420	0.012562	0.00527	-33.153	3.947	7.222	0.523	0.018	1.74	0.048	0.085
$\frac{C'_L}{\sigma} = 0.06$													
0.	0.0375	0.059930	0.013055	-0.000831	0.00089	9.188	2.956	1.749	0.273	0.021	1.21	-0.016	0.028
4.00	-0.0168	0.059743	0.003554	0.002123	0.00098	-1.322	3.191	3.263	0.374	0.030	1.37	-0.034	0.048
8.00	-0.0692	0.059662	-0.005518	0.005276	0.00179	-11.378	3.533	4.850	0.478	0.034	1.58	-0.036	0.071
12.00	-0.1185	0.059911	-0.015123	0.009019	0.00386	-21.210	3.956	6.398	0.565	0.032	1.86	0.026	0.099
16.00	-0.1649	0.059604	-0.025984	0.013923	0.00756	-31.027	4.426	7.820	0.586	0.009	2.11	0.099	0.101

TABLE 2. - Continued

CALCULATED CHARACTERISTICS OF A ROTOR HAVING RECTANGULAR BLADES WITH A LINEAR TWIST OF -4°

(f) $\frac{V}{\Omega R} = 0.30$; $M_{(1.0,90°)} = 0.9$ - Concluded

$\theta_{.75R}$, deg	λ	$\frac{C'_L}{\sigma}$	$\frac{C'_D}{\sigma}$	$\frac{C_Q}{\sigma}$	$\frac{bC_{Q,D}}{\sigma}$	α_c, deg	a_0, deg	a_1, deg	a_2, deg	a_3, deg	b_1, deg	b_2, deg	b_3, deg
$\frac{C'_L}{\sigma} = 0.07$													
0.	0.0451	0.070474	0.017861	-0.001903	0.00114	11.037	3.598	2.124	0.332	0.026	1.46	-0.021	0.036
4.00	-0.0101	0.070043	0.00650	0.001653	0.00134	0.306	3.766	3.594	0.425	0.031	1.63	-0.027	0.056
8.00	-0.[illegible]618	0.070363	-0.004142	0.005394	0.00268	-9.615	4.101	5.260	0.542	0.034	1.90	-0.002	0.086
12.00	-0.1114	0.069570	-0.014780	0.009785	0.00582	-19.326	4.438	6.902	0.625	0.018	2.22	0.065	0.111
16.00	-0.1555	0.069503	-0.026363	0.015288	0.01061	-28.643	4.877	8.588	0.667	-0.004	2.59	0.179	0.126
$\frac{C'_L}{\sigma} = 0.08$													
0.	0.0531	0.080217	0.023358	-0.003046	0.00174	12.940	4.217	2.560	0.406	0.032	1.73	-0.016	0.047
4.00	-0.0025	0.080243	0.010061	0.001041	0.00207	2.093	4.351	4.010	0.500	0.037	1.93	-0.005	0.072
8.00	-0.0542	0.080082	-0.001981	0.005434	0.00434	-7.867	4.607	5.706	0.611	0.031	2.26	0.051	0.107
12.00	-0.1023	0.080116	-0.012553	0.010708	0.00969	-16.761	4.917	7.803	0.756	0.007	2.86	0.175	0.153
16.00	-0.1427	0.079603	-0.024611	0.016782	0.01678	-25.562	5.275	9.738	0.783	-0.030	3.40	0.329	0.160
$\frac{C'_L}{\sigma} = 0.09$													
0.	0.0643	0.089694	0.030730	-0.004184	0.00430	15.515	4.880	3.321	0.549	0.045	2.14	0.032	0.079
4.00	0.0076	0.090223	0.015311	0.000440	0.00468	4.370	4.927	4.701	0.631	0.039	2.40	0.070	0.107
8.00	-0.0445	0.090241	0.001631	0.005588	0.00804	-5.667	5.114	6.377	0.713	0.019	2.78	0.151	0.142
12.00	-0.0883	0.089724	-0.009924	0.011799	0.01625	-14.214	5.360	8.655	0.843	-0.017	3.51	0.319	0.177
$\frac{C'_L}{\sigma} = 0.095$													
0.	0.0800	0.094624	[illegible]	[illegible]	0.01334	18.[illegible]24	5.308	4.849	0.706	0.073	2.63	-0.039	0.072
4.00	0.0299	0.094422	[illegible]	[illegible]	0.01970	8.773	5.236	7.077	0.929	0.075	3.34	0.037	0.125
8.00	-0.0098	0.094191	[illegible]	[illegible]	0.02957	1.021	5.315	10.127	1.119	0.024	4.44	0.157	0.202
12.00	-0.0541	0.094[illegible]	[illegible]	[illegible]	0.03871	-7.411	5.521	12.479	1.135	-0.038	5.23	0.221	0.233

TABLE 2. - Continued

CALCULATED CHARACTERISTICS OF A ROTOR HAVING RECTANGULAR BLADES WITH A LINEAR TWIST OF -4°

(g) $\frac{V}{\Omega R} = 0.35$; $M_{(1.0,90°)} = 0.7$

$\theta_{.75R}$, deg	λ	$\frac{C'_L}{\sigma}$	$\frac{C'_D}{\sigma}$	$\frac{C_Q}{\sigma}$	$\frac{bC_{Q,D}}{\sigma}$	α_c, deg	a_0, deg	a_1, deg	a_2, deg	a_3, deg	b_1, deg	b_2, deg	b_3, deg
$\frac{C'_L}{\sigma} = 0.03$													
-4.00	0.0736	0.030048	0.006959	-0.000735	0.00082	12.887	0.839	-0.756	0.034	-0.001	0.37	0.017	-0.001
-2.	0.0187	0.030102	0.003299	0.000427	0.00063	3.778	1.091	0.926	0.151	0.009	0.53	0.001	0.017
4.00	-0.0356	0.029931	-0.000455	0.001716	0.00062	-5.142	1.375	2.687	0.275	0.017	0.71	-0.017	0.035
8.00	-0.0892	0.029851	-0.004348	0.003096	0.00074	-14.053	1.703	4.398	0.391	0.027	0.88	-0.029	0.053
12.00	-0.1418	0.030016	-0.008998	0.004849	0.00103	-23.127	2.085	5.927	0.468	0.028	1.04	-0.036	0.059
16.00	-0.1929	0.029629	-0.014632	0.007090	0.00155	-32.585	2.511	7.181	0.510	0.029	1.17	-0.020	0.064
20.00	-0.2411	0.029531	-0.022159	0.010284	0.00248	-42.460	3.065	8.036	0.495	0.020	1.29	0.010	0.058
$\frac{C'_L}{\sigma} = 0.04$													
-4.00	0.0810	0.040061	0.010415	-0.001773	0.00094	14.378	1.413	-0.379	0.098	0.003	0.64	0.021	0.007
-2.	0.0258	0.040214	0.005378	-0.000185	0.00067	5.182	1.647	1.280	0.213	0.012	0.80	0.004	0.023
4.00	-0.0289	0.040033	0.000260	0.001558	0.00066	-3.792	1.918	3.024	0.334	0.020	0.97	-0.012	0.042
8.00	-0.0825	0.039872	-0.004920	0.003384	0.00080	-12.689	2.243	4.744	0.449	0.030	1.14	-0.024	0.059
12.00	-0.1353	0.039509	-0.010668	0.005503	0.00115	-21.750	2.607	6.292	0.525	0.029	1.29	-0.028	0.066
16.00	-0.1859	0.039743	-0.017748	0.008280	0.00184	-30.957	3.082	7.630	0.575	0.030	1.46	-0.006	0.072
20.00	-0.2335	0.039749	-0.026685	0.012078	0.00331	-40.472	3.658	8.645	0.566	0.016	1.64	0.043	0.070
$\frac{C'_L}{\sigma} = 0.05$													
0.	0.0330	0.050150	0.008063	-0.000965	0.00076	6.603	2.207	1.642	0.276	0.015	1.06	0.008	0.030
4.00	-0.0220	0.050133	0.001610	0.001210	0.00072	-2.435	2.464	3.363	0.393	0.023	1.23	-0.006	0.048
8.00	-0.0759	0.049888	-0.004869	0.003487	0.00090	-11.334	2.782	5.092	0.509	0.032	1.40	-0.018	0.066
12.00	-0.1285	0.049629	-0.011853	0.006043	0.00134	-20.300	3.158	6.681	0.588	0.031	1.57	-0.013	0.076
16.00	-0.1788	0.049818	-0.020112	0.009305	0.00242	-29.341	3.636	8.099	0.641	0.028	1.78	0.023	0.085
20.00	-0.2255	0.049811	-0.030181	0.013796	0.00548	-38.487	4.196	9.325	0.643	0.008	2.06	0.108	0.091
$\frac{C'_L}{\sigma} = 0.06$													
0.	0.0404	0.060151	0.011440	-0.001924	0.00094	8.082	2.782	2.029	0.344	0.019	1.33	0.009	0.037
4.00	-0.0150	0.060284	0.003613	0.000674	0.00082	-1.053	3.021	3.708	0.453	0.026	1.50	-0.001	0.055
8.00	-0.0691	0.059910	-0.004233	0.003423	0.00106	-9.980	3.321	5.440	0.568	0.035	1.67	-0.008	0.073
12.00	-0.1226	0.060498	-0.01230	0.00650	0.00188	-18.343	3.716	7.377	0.710	0.037	2.00	0.019	0.102
16.00	-0.1712	0.059756	-0.021657	0.010239	0.00415	-27.702	4.156	8.632	0.714	0.022	2.16	0.080	0.105
20.00	-0.2163	0.059664	-0.032233	0.015432	0.00979	-36.327	4.671	10.221	0.755	-0.002	2.65	0.232	0.125

TABLE 2. - Continued

CALCULATED CHARACTERISTICS OF A ROTOR HAVING RECTANGULAR BLADES WITH A LINEAR TWIST OF -4°

(g) $\frac{V}{\Omega R} = 0.35$; $M_{(1.0,90°)} = 0.7$ - Concluded

$\theta_{.75R}$, deg	λ	$\frac{C'_L}{\sigma}$	$\frac{C'_D}{\sigma}$	$\frac{C_Q}{\sigma}$	$\frac{bC_{Q,D}}{\sigma}$	α_c, deg	a_0, deg	a_1, deg	a_2, deg	a_3, deg	b_1, deg	b_2, deg	b_3, deg
$\frac{C'_L}{\sigma} = 0.07$													
0.	0.0483	0.070053	0.015539	-0.003063	0.00124	9.633	3.371	2.453	0.419	0.025	1.60	0.010	0.046
4.00	-0.0077	0.070488	0.006292	-0.000041	0.00097	0.389	3.593	4.084	0.521	0.030	1.77	0.002	0.062
8.00	-0.0625	0.069651	-0.003005	0.003194	0.00133	-8.646	3.844	5.792	0.628	0.035	1.95	0.007	0.082
12.00	-0.1143	0.069655	-0.012247	0.006693	0.00274	-17.371	4.220	7.536	0.729	0.032	2.23	0.055	0.106
16.00	-0.1625	0.069587	-0.022184	0.011237	0.00827	-25.841	4.641	9.359	0.821	0.012	2.71	0.196	0.142
20.00	-0.2000	0.069620	-0.030535	0.017297	0.01896	-32.800	4.960	12.064	0.920	-0.070	4.21	0.608	0.196
$\frac{C'_L}{\sigma} = 0.08$													
0.	0.0567	0.079641	0.020360	-0.004356	0.00186	11.261	3.964	2.940	0.509	0.033	1.88	0.013	0.057
4.00	0.0002	0.080447	0.009698	-0.000918	0.00142	1.926	4.167	4.540	0.612	0.038	2.07	0.013	0.073
8.00	-0.0550	0.079934	-0.000951	0.002779	0.00197	-7.165	4.397	6.220	0.707	0.038	2.29	0.044	0.098
12.00	-0.1056	0.079897	-0.011188	0.007091	0.00663	-15.639	4.744	8.166	0.838	0.028	2.72	0.149	0.138
16.00	-0.1453	0.079761	-0.019046	0.012771	0.01836	-22.492	4.978	11.073	1.008	-0.063	4.29	0.612	0.227
20.00	-0.1732	0.079620	-0.024077	0.020394	0.03651	-27.545	5.199	14.585	0.971	-0.230	6.70	0.944	0.150
$\frac{C'_L}{\sigma} = 0.084$													
0.	0.0623	0.084577	0.023649	-0.005029	0.00295	12.338	4.295	3.393	0.502	0.049	2.00	-0.108	0.023
4.00	0.0050	0.084755	0.011934	-0.001278	0.00269	2.818	4.427	4.989	0.595	0.058	2.18	-0.122	0.030
8.00	-0.0508	0.084570	0.000646	0.002722	0.00339	-6.354	4.849	6.652	0.677	0.067	2.41	-0.197	0.049
$\frac{C'_L}{\sigma} = 0.09$													
0.	0.0678	0.089592	0.026824	-0.005821	0.00401	13.404	4.628	3.695	0.660	0.048	2.27	0.046	0.081
4.00	0.0105	0.089749	0.014180	-0.001780	0.00447	3.833	4.725	5.324	0.788	0.055	2.53	0.085	0.110
8.00	-0.0457	0.089561	0.002016	0.002536	0.00591	-5.417	4.900	5.903	0.845	0.041	2.80	0.153	0.139

TABLE 2. - Continued

CALCULATED CHARACTERISTICS OF A ROTOR HAVING RECTANGULAR BLADES WITH A LINEAR TWIST OF -4°

(h) $\frac{V}{\Omega R} = 0.35$; $M_{(1.0, 90°)} = 0.8$

$\theta_{.75R}$, deg	λ	$\frac{C'_L}{\sigma}$	$\frac{C'_D}{\sigma}$	$\frac{C_Q}{\sigma}$	$\frac{bC_{Q,D}}{\sigma}$	α_c, deg	a_0, deg	a_1, deg	a_2, deg	a_3, deg	b_1, deg	b_2, deg	b_3, deg
$\frac{C'_L}{\sigma} = 0.03$													
-4.00	0.0736	0.030403	0.007139	-0.000638	0.00081	12.906	0.912	-0.781	0.038	-0.000	0.40	0.018	0.000
-0.	0.0182	0.029991	0.003320	0.000545	0.00062	3.690	1.146	0.903	0.155	0.011	0.56	-0.004	0.019
4.00	-0.0364	0.029829	-0.000436	0.001821	0.00062	-5.273	1.443	2.684	0.284	0.023	0.75	-0.029	0.039
8.00	-0.0902	0.029833	-0.004355	0.003223	0.00075	-14.224	1.788	4.417	0.405	0.035	0.94	-0.046	0.057
12.00	-0.1430	0.030005	-0.009037	0.005055	0.00112	-23.352	2.183	5.965	0.485	0.036	1.10	-0.053	0.065
16.00	-0.1941	0.029553	-0.014660	0.007473	0.00190	-32.841	2.613	7.247	0.525	0.034	1.26	-0.024	0.072
20.00	-0.2417	0.030030	-0.022471	0.011123	0.00350	-42.598	3.193	8.177	0.500	0.014	1.42	0.026	0.064
$\frac{C'_L}{\sigma} = 0.04$													
-4.00	0.0807	0.040454	0.010585	-0.001689	0.00092	14.350	1.490	-0.399	0.105	0.005	0.67	0.020	0.008
- .	0.0250	0.040137	0.005353	-0.000059	0.00066	5.058	1.707	1.262	0.219	0.015	0.83	-0.003	0.026
4.00	-0.0299	0.039908	0.000224	0.001685	0.00067	-3.965	1.987	3.026	0.344	0.026	1.01	-0.026	0.046
8.00	-0.0837	0.039847	-0.004976	0.003546	0.00085	-12.897	2.331	4.769	0.465	0.039	1.20	-0.042	0.065
12.00	-0.1363	0.040003	-0.010808	0.005814	0.00137	-21.913	2.736	6.365	0.548	0.038	1.38	-0.042	0.075
16.00	-0.1871	0.039653	-0.017790	0.008797	0.00260	-31.204	3.178	7.727	0.591	0.033	1.58	0.000	0.084
20.00	-0.2341	0.039649	-0.026637	0.012989	0.00498	-40.637	3.740	8.835	0.579	0.013	1.78	0.068	0.082
$\frac{C'_L}{\sigma} = 0.05$													
0.	0.0319	0.050107	0.007989	-0.000828	0.00075	6.438	2.271	1.626	0.283	0.020	1.10	-0.002	0.033
4.00	-0.0233	0.050004	0.001507	0.001367	0.00074	-2.648	2.537	3.370	0.405	0.030	1.28	-0.023	0.053
8.00	-0.0773	0.049855	-0.004977	0.003696	0.00101	-11.573	2.871	5.124	0.526	0.041	1.47	-0.035	0.073
12.00	-0.1294	0.050181	-0.011987	0.006446	0.00189	-20.454	3.282	6.780	0.612	0.037	1.70	-0.015	0.088
16.00	-0.1798	0.049728	-0.020142	0.009974	0.00381	-29.550	3.715	8.244	0.657	0.025	1.95	0.044	0.100
20.00	-0.2256	0.049683	-0.029932	0.014900	0.00765	-38.536	4.255	9.615	0.664	0.001	2.28	0.149	0.107
$\frac{C'_L}{\sigma} = 0.06$													
0.	0.0392	0.060261	0.011349	-0.001786	0.00092	7.890	2.855	2.018	0.354	0.025	1.37	-0.003	0.041
4.00	-0.0165	0.060232	0.003447	0.000864	0.00088	-1.295	3.100	3.723	0.468	0.034	1.55	-0.019	0.060
8.00	-0.0710	0.059541	-0.004395	0.003694	0.00131	-10.277	3.391	5.480	0.585	0.041	1.75	-0.024	0.082
12.00	-0.1225	0.060084	-0.012474	0.006939	0.00278	-19.005	3.805	7.219	0.683	0.037	2.04	0.022	0.106
16.00	-0.1748	0.059756	-0.02160	0.011078	0.00721	-26.731	4.166	9.384	0.825	0.017	2.62	0.141	0.152
20.00	-0.2152	0.059851	-0.031740	0.016794	0.01243	-36.137	4.719	10.633	0.775	-0.018	2.98	0.285	0.142

TABLE 2. - Continued

CALCULATED CHARACTERISTICS OF A ROTOR HAVING RECTANGULAR BLADES WITH A LINEAR TWIST OF -4°

(h) $\frac{V}{\Omega R} = 0.35$; $M_{(1.0, 90°)} = 0.8$ - Concluded

$\theta_{.75R}$, deg	λ	$\frac{C'_L}{\sigma}$	$\frac{C'_D}{\sigma}$	$\frac{C_Q}{\sigma}$	$\frac{bC_{Q,D}}{\sigma}$	α_c, deg	a_0, deg	a_1, deg	a_2, deg	a_3, deg	b_1, deg	b_2, deg	b_3, deg
$\frac{C'_L}{\sigma} = 0.07$													
0.	0.0469	0.070325	0.015444	-0.002924	0.00122	9.419	3.456	2.449	0.431	0.031	1.65	-0.006	0.049
4.00	-0.0097	0.070063	0.005935	0.000219	0.00110	0.052	3.644	4.088	0.533	0.037	1.83	-0.012	0.069
8.00	-0.0637	0.070040	-0.003085	0.003541	0.00198	-8.832	3.952	5.891	0.656	0.042	2.08	0.006	0.097
12.00	-0.1159	0.070394	-0.01205	0.007407	0.00537	-17.053	4.310	8.009	0.817	0.032	2.60	0.102	0.146
16.00	-0.1619	0.069754	-0.021829	0.012379	0.01089	-25.732	4.700	9.691	0.850	-0.002	3.05	0.252	0.167
20.00	-0.1977	0.069524	-0.029431	0.018712	0.02199	-32.401	4.971	12.493	0.926	-0.092	4.64	0.642	0.202
$\frac{C'_L}{\sigma} = 0.08$													
0.	0.0554	0.080230	0.020365	-0.004209	0.00197	11.078	4.068	2.972	0.532	0.042	1.96	-0.000	0.064
4.00	-0.0016	0.080229	0.009376	-0.000625	0.00182	1.614	4.222	4.583	0.633	0.046	2.17	0.017	0.090
8.00	-0.0558	0.080317	-0.000956	0.003280	0.00339	-7.293	4.495	6.377	0.744	0.041	2.48	0.063	0.120
12.00	-0.1056	0.079713	-0.010969	0.008022	0.00946	-15.641	4.781	8.444	0.877	0.017	3.05	0.216	0.174
16.00	-0.1415	0.079751	-0.017543	0.014229	0.02229	-21.856	4.982	11.565	1.031	-0.097	4.90	0.679	0.239
20.00	-0.1725	0.079685	-0.023508	0.022010	0.03834	-27.441	5.259	14.738	0.986	-0.237	6.79	0.897	0.163
$\frac{C'_L}{\sigma} = 0.085$													
0.	0.0600	0.084712	0.023035	-0.004834	0.00281	11.963	4.355	3.300	0.601	0.049	2.15	0.018	0.078
4.00	0.0037	0.085457	0.011714	-0.001076	0.00303	2.618	4.532	4.975	0.721	0.054	2.42	0.050	0.109
8.00	-0.0513	0.085194	0.000437	0.003226	0.00521	-6.436	4.746	6.691	0.801	0.038	2.74	0.114	0.139
12.00	-0.0973	0.084607	-0.008947	0.008576	0.01468	-14.124	4.959	9.180	0.987	-0.010	3.75	0.407	0.225

TABLE 2. - Continued

CALCULATED CHARACTERISTICS OF A ROTOR HAVING RECTANGULAR BLADES WITH A LINEAR TWIST OF -4°

(i) $\frac{V}{\Omega R} = 0.35$; $M_{(1.0,90°)} = 0.9$

$\theta_{.75R}$, deg	λ	$\frac{C'_L}{\sigma}$	$\frac{C'_D}{\sigma}$	$\frac{C_Q}{\sigma}$	$\frac{bC_{Q,D}}{\sigma}$	α_c, deg	a_0, deg	a_1, deg	a_2, deg	a_3, deg	b_1, deg	b_2, deg	b_3, deg
$\frac{C'_L}{\sigma} = 0.03$													
-4.00	0.0730	0.030187	0.007828	0.000184	0.00079	12.806	0.941	-0.782	0.028	-0.001	0.40	0.025	-0.006
-0.	0.0174	0.029798	0.004001	0.001359	0.00062	3.555	1.182	0.908	0.154	0.014	0.58	-0.007	0.016
4.00	-0.0375	0.029565	0.000263	0.002654	0.00063	-5.459	1.479	2.685	0.292	0.029	0.78	-0.044	0.041
8.00	-0.0914	0.029812	-0.003655	0.004129	0.00081	-14.422	1.843	4.422	0.424	0.046	0.99	-0.069	0.065
12.00	-0.1444	0.029989	-0.008338	0.006101	0.00140	-23.598	2.239	5.973	0.511	0.046	1.17	-0.078	0.079
16.00	-0.1951	0.030134	-0.014152	0.008844	0.00264	-33.005	2.693	7.292	0.548	0.032	1.37	-0.034	0.087
20.00	-0.2427	0.029955	-0.02180	0.012819	0.00492	-42.814	3.224	8.293	0.521	0.012	1.54	0.040	0.079
$\frac{C'_L}{\sigma} = 0.04$													
-4.00	0.0799	0.040286	0.011219	-0.000893	0.00090	14.211	1.525	-0.396	0.098	0.005	0.68	0.022	0.003
-0.	0.0239	0.039983	0.005981	0.000764	0.00065	4.880	1.748	1.270	0.220	0.019	0.85	-0.010	0.025
4.00	-0.0313	0.039600	0.000861	0.002569	0.00068	-4.198	2.025	3.030	0.355	0.034	1.05	-0.044	0.049
8.00	-0.0851	0.039810	-0.004306	0.004538	0.00098	-13.132	2.387	4.780	0.487	0.050	1.26	-0.067	0.075
12.00	-0.1378	0.039982	-0.010135	0.007001	0.00183	-22.169	2.790	6.390	0.577	0.048	1.48	-0.061	0.093
16.00	-0.1882	0.039564	-0.017002	0.010298	0.00372	-31.419	3.214	7.784	0.623	0.034	1.71	0.005	0.106
20.00	-0.2347	0.039558	-0.025683	0.014930	0.00690	-40.755	3.750	8.987	0.600	0.008	1.93	0.090	0.099
$\frac{C'_L}{\sigma} = 0.05$													
0.	0.0305	0.049896	0.008529	0.000019	0.00074	6.203	2.310	1.632	0.287	0.025	1.12	-0.013	0.033
4.00	-0.0249	0.049708	0.002070	0.002315	0.00079	-2.921	2.578	3.378	0.419	0.039	1.32	-0.044	0.058
8.00	-0.0788	0.049806	-0.004347	0.004794	0.00129	-11.836	2.927	5.144	0.550	0.052	1.54	-0.059	0.085
12.00	-0.1308	0.050112	-0.011289	0.007811	0.00276	-20.696	3.328	6.833	0.644	0.044	1.83	-0.021	0.112
16.00	-0.1806	0.049628	-0.019247	0.011743	0.00557	-29.704	3.745	8.341	0.695	0.026	2.10	0.055	0.125
20.00	-0.2256	0.049616	-0.028734	0.017026	0.00968	-38.544	4.243	9.812	0.684	-0.005	2.44	0.171	0.125
$\frac{C'_L}{\sigma} = 0.06$													
0.	0.0376	0.060220	0.011860	-0.000925	0.00091	7.630	2.908	2.031	0.361	0.032	1.41	-0.018	0.042
4.00	-0.0182	0.060150	0.003974	0.001883	0.00102	-1.579	3.155	3.745	0.487	0.044	1.61	-0.041	0.067
8.00	-0.0724	0.059685	-0.003745	0.004925	0.00183	-10.513	3.455	5.533	0.616	0.050	1.86	-0.038	0.099
12.00	-0.1236	0.059997	-0.011726	0.008531	0.00426	-19.207	3.841	7.307	0.720	0.039	2.22	0.032	0.134
16.00	-0.1747	0.059917	-0.02040	0.01230	0.00913	-26.750	4.174	9.493	0.862	0.008	2.86	0.166	0.180
20.00	-0.2146	0.059759	-0.030264	0.019021	0.01428	-36.038	4.688	10.862	0.788	-0.028	3.17	0.297	0.157

TABLE 2. - Continued

CALCULATED CHARACTERISTICS OF A ROTOR HAVING RECTANGULAR BLADES WITH A LINEAR TWIST OF -4°

(i) $\frac{V}{\Omega R} = 0.35$; $M_{(1.0,90°)} = 0.9$ - Concluded

$\theta_{.75R}$, deg	λ	$\frac{C'_L}{\sigma}$	$\frac{C'_D}{\sigma}$	$\frac{C_Q}{\sigma}$	$\frac{bC_{Q,D}}{\sigma}$	α_c, deg	a_0, deg	a_1, deg	a_2, deg	a_3, deg	b_1, deg	b_2, deg	b_3, deg
$\frac{C'_L}{\sigma} = 0.07$													
0.	0.0448	0.070117	0.015759	-0.001979	0.00125	9.067	3.496	2.458	0.440	0.038	1.69	-0.022	0.052
4.00	-0.0115	0.070077	0.006438	0.001322	0.00142	-0.241	3.702	4.130	0.556	0.046	1.91	-0.027	0.081
8.00	-0.0648	0.070346	-0.002367	0.004952	0.00311	-9.011	4.018	5.996	0.694	0.047	2.25	0.009	0.121
12.00	-0.1159	0.069601	-0.011373	0.009230	0.00666	-17.636	4.329	7.851	0.801	0.029	2.65	0.100	0.158
16.00	-0.1614	0.069752	-0.020462	0.014645	0.01297	-25.642	4.689	9.904	0.874	-0.012	3.31	0.275	0.188
20.00	-0.1966	0.069666	-0.027738	0.020935	0.02406	-32.178	4.953	12.728	0.926	-0.105	4.83	0.630	0.205
$\frac{C'_L}{\sigma} = 0.08$													
0.	0.0537	0.080303	0.020816	-0.003211	0.00232	10.808	4.120	3.047	0.560	0.052	2.06	-0.002	0.078
4.00	-0.0030	0.080482	0.010041	0.000616	0.00279	1.404	4.296	4.691	0.672	0.054	2.32	0.016	0.108
8.00	-0.0567	0.080109	-0.000229	0.004959	0.00547	-7.457	4.512	6.531	0.785	0.038	2.72	0.097	0.155
12.00	-0.1052	0.079578	-0.009740	0.010205	0.01204	-15.592	4.783	8.681	0.917	0.007	3.38	0.255	0.204
16.00	-0.1395	0.079713	-0.015596	0.016518	0.02506	-21.503	4.969	11.913	1.035	-0.114	5.23	0.681	0.239
20.00	-0.1734	0.079610	-0.022392	0.024105	0.03898	-27.624	5.281	14.873	0.982	-0.227	6.66	0.831	0.165
$\frac{C'_L}{\sigma} = 0.085$													
0.	0.0593	0.084681	0.023409	-0.003604	0.00429	11.576	4.390	3.584	0.688	0.066	2.40	0.050	0.114
4.00	0.0029	0.085409	0.012375	0.000420	0.00513	2.479	4.574	5.156	0.771	0.055	2.65	0.079	0.138
8.00	-0.0513	0.085298	0.001424	0.005174	0.00838	-6.435	4.781	6.941	0.858	0.032	3.06	0.162	0.178
12.00	-0.0941	0.084696	-0.006755	0.011057	0.01845	-13.594	4.959	9.646	1.027	-0.036	4.31	0.477	0.245

TABLE 2. - Continued

CALCULATED CHARACTERISTICS OF A ROTOR HAVING RECTANGULAR BLADES WITH A LINEAR TWIST OF -4°

(j) $\frac{V}{\Omega R} = 0.40$, $M_{(1.0,90°)} = 0.7$

$\theta_{.75R}$, deg	λ	$\frac{C'_L}{\sigma}$	$\frac{C'_D}{\sigma}$	$\frac{C_Q}{\sigma}$	$\frac{bC_{Q,D}}{\sigma}$	α_c, deg	a_0, deg	a_1, deg	a_2, deg	a_3, deg	b_1, deg	b_2, deg	b_3, deg
$\frac{C'_L}{\sigma} = 0$													
-4.00	0.0542	0.000255	0.000743	0.001321	0.00090	7.847	-0.837	-2.061	-0.152	-0.015	-0.47	0.042	-0.015
-0.	-0.0019	-0.000007	0.000995	0.001188	0.00084	-0.271	-0.562	-0.096	-0.029	-0.001	-0.29	-0.008	-0.002
4.00	-0.0581	-0.000297	0.001286	0.001094	0.00086	-8.362	-0.296	1.864	0.093	0.014	-0.11	-0.055	0.012
8.00	-0.1150	-0.000491	0.001408	0.001187	0.00099	-16.207	-0.020	3.830	0.214	0.029	0.07	-0.107	0.022
12.00	-0.1725	-0.000109	0.001150	0.001591	0.00119	-23.545	0.289	5.872	0.347	0.043	0.29	-0.152	0.035
16.00	-0.2217	0.000121	-0.000097	0.002352	0.00155	-33.725	0.658	6.864	0.353	0.034	0.43	-0.143	0.029
20.00	-0.2737	-0.000150	-0.001260	0.003397	0.00196	-43.200	1.009	7.796	0.361	0.029	0.55	-0.131	0.028
$\frac{C'_L}{\sigma} = 0.01$													
-4.00	0.0611	0.010336	0.002031	0.000837	0.00093	8.993	-0.293	-1.658	-0.087	-0.010	-0.18	0.031	-0.011
-0.	0.0048	0.010014	0.001153	0.001137	0.00084	0.864	-0.032	0.281	0.032	0.004	-0.00	-0.018	0.001
4.00	-0.0513	0.009775	0.000297	0.001492	0.00085	-7.198	0.242	2.256	0.156	0.019	0.18	-0.065	0.016
8.00	-0.1068	0.009837	-0.000812	0.002016	0.00097	-15.314	0.553	4.163	0.272	0.033	0.37	-0.109	0.027
12.00	-0.1638	0.010027	-0.002103	0.002844	0.00119	-22.863	0.868	6.154	0.396	0.045	0.58	-0.154	0.036
16.00	-0.2148	0.009581	-0.004522	0.004011	0.00152	-32.361	1.221	7.324	0.412	0.038	0.71	-0.149	0.035
20.00	-0.2663	0.009512	-0.007496	0.005723	0.00199	-41.505	1.637	8.375	0.428	0.035	0.85	-0.137	0.035
$\frac{C'_L}{\sigma} = 0.02$													
-4.00	0.0678	0.020015	0.003805	0.000197	0.00098	10.134	0.230	-1.268	-0.024	-0.006	0.10	0.021	-0.007
-0.	0.0115	0.020077	0.001882	0.000886	0.00085	2.010	0.502	0.664	0.094	0.009	0.28	-0.027	0.005
4.00	-0.0446	0.019870	-0.000128	0.001694	0.00085	-6.042	0.779	2.645	0.218	0.023	0.47	-0.076	0.019
8.00	-0.1012	0.019500	-0.002112	0.002607	0.00095	-13.953	1.066	4.643	0.346	0.039	0.66	-0.128	0.030
12.00	-0.1544	0.020110	-0.005054	0.003892	0.00119	-22.335	1.450	6.336	0.427	0.044	0.84	-0.151	0.036
16.00	-0.2077	0.019730	-0.008472	0.005547	0.00155	-30.901	1.816	7.832	0.484	0.046	1.01	-0.158	0.041
20.00	-0.2588	0.019734	-0.013078	0.007885	0.00210	-39.844	2.272	8.949	0.495	0.040	1.16	-0.144	0.039
$\frac{C'_L}{\sigma} = 0.03$													
-4.00	0.0750	0.030029	0.006212	-0.000651	0.00104	11.364	0.785	-0.844	0.042	-0.001	0.40	0.008	-0.003
-0.	0.0184	0.030207	0.003153	0.000435	0.00087	3.184	1.046	1.061	0.159	0.014	0.57	-0.038	0.009
4.00	-0.0378	0.029989	0.000020	0.001695	0.00086	-4.887	1.317	3.032	0.281	0.027	0.76	-0.087	0.022
8.00	-0.0943	0.029627	-0.003052	0.003030	0.00096	-12.821	1.613	5.046	0.412	0.044	0.95	-0.137	0.035
12.00	-0.1477	0.030142	-0.007085	0.004737	0.00122	-21.097	2.001	6.758	0.490	0.049	1.13	-0.161	0.040
16.00	-0.2008	0.029859	-0.01190	0.006862	0.00168	-29.529	2.395	8.308	0.550	0.051	1.31	-0.165	0.046
20.00	-0.2514	0.029898	-0.017702	0.009785	0.00248	-38.243	2.876	9.534	0.569	0.045	1.50	-0.142	0.047

TABLE 2. - Continued

CALCULATED CHARACTERISTICS OF A ROTOR HAVING RECTANGULAR BLADES WITH A LINEAR TWIST OF -4°

(j) $\frac{V}{\Omega R} = 0.40$; $M_{(1.0,90°)} = 0.7$ - Continued

$\theta_{.75R}$, deg	λ	$\frac{C'_L}{\sigma}$	$\frac{C'_D}{\sigma}$	$\frac{C_Q}{\sigma}$	$\frac{bC_{Q,D}}{\sigma}$	α_c, deg	a_0, deg	a_1, deg	a_2, deg	a_3, deg	b_1, deg	b_2, deg	b_3, deg
$\frac{C'_L}{\sigma} = 0.04$													
-4.00	0.0823	0.040074	0.009243	-0.001692	0.00116	12.634	1.350	-0.401	0.111	0.005	0.69	-0.008	0.001
-0.	0.0255	0.040348	0.005092	-0.000211	0.00090	4.390	1.600	1.476	0.227	0.019	0.87	-0.051	0.013
4.00	-0.0310	0.040129	0.000759	0.001488	0.00088	-3.727	1.861	3.421	0.344	0.032	1.05	-0.099	0.024
8.00	-0.0874	0.039837	-0.003447	0.003265	0.00101	-11.683	2.161	5.446	0.477	0.049	1.25	-0.146	0.038
12.00	-0.1410	0.040146	-0.008507	0.005384	0.00133	-19.878	2.547	7.182	0.555	0.054	1.43	-0.168	0.045
16.00	-0.1977	0.040170	-0.01440	0.007851	0.00213	-27.153	2.922	9.313	0.700	0.067	1.77	-0.179	0.065
20.00	-0.2437	0.040014	-0.021541	0.011558	0.00379	-36.679	3.447	10.166	0.654	0.051	1.89	-0.119	0.061
$\frac{C'_L}{\sigma} = 0.05$													
-4.00	0.0899	0.050114	0.012934	-0.002932	0.00130	13.953	1.929	0.061	0.183	0.011	0.99	-0.021	0.007
-0.	0.0328	0.050414	0.007572	-0.001034	0.00097	5.630	2.161	1.914	0.299	0.025	1.16	-0.067	0.017
4.00	-0.0241	0.050293	0.002100	0.001074	0.00093	-2.558	2.410	3.811	0.407	0.036	1.34	-0.112	0.026
8.00	-0.0805	0.050056	-0.003278	0.003306	0.00109	-10.542	2.711	5.842	0.543	0.054	1.55	-0.154	0.043
12.00	-0.1342	0.050141	-0.009345	0.005849	0.00152	-18.666	3.087	7.615	0.625	0.060	1.74	-0.170	0.051
16.00	-0.1867	0.049913	-0.016153	0.008986	0.00281	-26.830	3.491	9.328	0.703	0.063	2.01	-0.145	0.066
20.00	-0.2355	0.049758	-0.024177	0.013244	0.00737	-34.947	3.954	11.012	0.788	0.065	2.44	-0.055	0.087
$\frac{C'_L}{\sigma} = 0.06$													
-4.00	0.0980	0.060120	0.017348	-0.004369	0.00149	15.351	2.526	0.568	0.261	0.019	1.29	-0.040	0.011
-0.	0.0405	0.060437	0.010685	-0.002038	0.00111	6.925	2.733	2.390	0.378	0.033	1.46	-0.085	0.021
4.00	-0.0170	0.060485	0.004037	0.000469	0.00102	-1.354	2.972	4.227	0.476	0.042	1.63	-0.129	0.027
8.00	-0.0735	0.060168	-0.002526	0.003152	0.00125	-9.397	3.256	6.242	0.610	0.060	1.86	-0.158	0.048
12.00	-0.1272	0.060101	-0.009592	0.006185	0.00193	-17.429	3.619	8.090	0.708	0.069	2.08	-0.162	0.060
16.00	-0.1787	0.059630	-0.017226	0.009998	0.00623	-25.362	3.986	10.034	0.833	0.079	2.50	-0.089	0.091
20.00	-0.2223	0.059624	-0.024537	0.015075	0.01598	-32.464	4.330	12.597	1.039	0.068	3.65	0.171	0.162
$\frac{C'_L}{\sigma} = 0.07$													
-4.00	0.1044	0.049723	0.021490	-0.005895	0.00197	16.090	3.090	1.151	0.372	0.031	1.63	-0.069	0.016
-0.	0.0484	0.070107	0.014360	-0.003185	0.00155	8.249	3.299	2.920	0.469	0.042	1.77	-0.106	0.025
4.00	-0.0093	0.070381	0.006586	-0.000298	0.00117	-0.080	3.527	4.740	0.573	0.054	1.95	-0.138	0.036
8.00	-0.0666	0.069816	-0.001206	0.002841	0.00153	-8.253	3.773	6.672	0.691	0.070	2.18	-0.153	0.055
12.00	-0.1193	0.069809	-0.009143	0.006555	0.00511	-16.067	4.108	8.740	0.840	0.088	2.55	-0.110	0.084
16.00	-0.1638	0.069530	-0.015690	0.011420	0.01704	-22.831	4.346	11.716	1.138	0.086	3.86	0.192	0.187
20.00	-0.1996	0.069831	-0.021006	0.017817	0.03213	-28.505	4.622	15.088	1.271	0.045	5.88	0.495	0.239

TABLE 2.- Continued

CALCULATED CHARACTERISTICS OF A ROTOR HAVING RECTANGULAR BLADES WITH A LINEAR TWIST OF -4°

(j) $\frac{V}{\Omega R} = 0.40$: $M_{(1.0,\,90°)} = 0.7$ - Concluded

$\theta_{.75R}$, deg	λ	$\frac{C'_L}{\sigma}$	$\frac{C'_D}{\sigma}$	$\frac{C_Q}{\sigma}$	$\frac{bC_{Q,D}}{\sigma}$	α_c, deg	a_0, deg	a_1, deg	a_2, deg	a_3, deg	b_1, deg	b_2, deg	b_3, deg
$\frac{C'_L}{\sigma} = 0.075$													
-4.00	0.1109	0.074848	0.025122	-0.006882	0.00232	17.493	3.447	1.354	0.459	0.030	1.80	0.035	0.054
-0.	0.0524	0.074807	0.016534	-0.003818	0.00173	9.222	3.594	3.006	0.571	0.040	1.92	0.019	0.070
4.00	-0.0056	0.075206	0.007828	-0.000832	0.00153	0.543	3.788	4.932	0.744	0.054	2.21	0.029	0.106
8.00	-0.0627	0.074605	-0.000711	0.002557	0.00211	-7.685	4.026	6.752	0.847	0.051	2.44	0.048	0.131
12.00	-0.1146	0.074616	-0.008800	0.006563	0.00837	-15.280	4.330	8.983	1.015	0.032	3.04	0.218	0.199
$\frac{C'_L}{\sigma} = 0.08$													
-4.00	0.1162	0.079713	0.028581	-0.007746	0.00311	18.465	3.772	1.796	0.455	0.042	1.91	-0.084	0.021
-0.	0.0578	0.079736	0.018899	-0.004439	0.00321	9.789	3.887	3.633	0.607	0.063	2.11	-0.134	0.026
4.00	0.0001	0.079513	0.009894	-0.001017	0.00439	1.444	4.042	5.588	0.768	0.088	2.39	-0.131	0.049
8.00	-0.0485	0.079280	0.002704	0.003411	0.01523	-5.620	4.196	8.588	1.147	0.127	3.44	0.093	0.155
12.00	-0.0906	0.079606	-0.002914	0.008927	0.02793	-11.667	4.414	11.965	1.376	0.024	5.04	0.347	0.254
16.00	-0.1361	0.079661	-0.009964	0.014393	0.03634	-18.416	4.709	14.533	1.397	-0.067	6.19	0.469	0.273
20.00	-0.1793	0.079698	-0.017206	0.020297	0.04646	-25.091	5.076	16.928	1.337	-0.147	7.43	0.573	0.255

TABLE 2. - Continued

CALCULATED CHARACTERISTICS OF A ROTOR HAVING RECTANGULAR BLADES WITH A LINEAR TWIST OF -4°

(k) $\frac{V}{\Omega R} = 0.40$; $M_{(1.0,90^\circ)} = 0.8$

$\theta_{.75R}$, deg		$\frac{C'_L}{\sigma}$	$\frac{C'_D}{\sigma}$	$\frac{C_Q}{\sigma}$	$\frac{bC_{Q,D}}{\sigma}$	α_c, deg	a_0, deg	a_1, deg	a_2, deg	a_3, deg	b_1, deg	b_2, deg	b_3, deg
$\frac{C'_L}{\sigma} = 0$													
-4.00	0.0546	0.000091	0.000859	0.001496	0.00090	7.860	-0.799	-2.121	-0.157	-0.018	-0.45	0.050	-0.015
-0.	-0.0016	-0.000005	0.001110	0.001305	0.00084	-0.235	-0.505	-0.133	-0.030	-0.001	-0.26	-0.006	-0.002
4.00	-0.0581	-0.000327	0.001385	0.001180	0.00086	-8.356	-0.233	1.854	0.098	0.017	-0.06	-0.051	0.017
8.00	-0.1149	-0.000290	0.001452	0.001300	0.00099	-16.209	0.066	3.847	0.225	0.034	0.14	-0.109	0.028
12.00	-0.1724	0.000421	0.001079	0.001802	0.00120	-23.545	0.405	5.922	0.364	0.051	0.39	-0.159	0.041
16.00	-0.2223	0.000156	-0.000087	0.002492	0.00158	-33.844	0.764	6.900	0.363	0.039	0.49	-0.156	0.030
20.00	-0.2745	-0.000152	-0.001247	0.003640	0.00210	-43.389	1.122	7.835	0.372	0.033	0.61	-0.141	0.029
$\frac{C'_L}{\sigma} = 0.01$													
-4.00	0.0413	0.010177	0.002124	0.001005	0.00093	9.014	-0.253	-1.714	-0.090	-0.012	-0.16	0.037	-0.011
-0.	0.0048	0.009581	0.001255	0.001252	0.00084	0.866	0.026	0.247	0.032	0.004	0.03	-0.017	0.002
4.00	-0.0515	0.009734	0.000388	0.001581	0.00085	-7.225	0.305	2.249	0.162	0.022	0.23	-0.063	0.021
8.00	-0.1081	0.009968	-0.000620	0.002126	0.00097	-15.078	0.629	4.273	0.295	0.040	0.44	-0.122	0.032
12.00	-0.1656	0.010324	-0.001892	0.003026	0.00120	-22.509	0.963	6.349	0.433	0.057	0.69	-0.171	0.046
16.00	-0.2156	0.009598	-0.004532	0.004192	0.00159	-32.539	1.328	7.356	0.423	0.044	0.77	-0.162	0.036
20.00	-0.2665	0.009955	-0.007782	0.006154	0.00226	-41.638	1.783	8.454	0.445	0.040	0.93	-0.144	0.039
$\frac{C'_L}{\sigma} = 0.02$													
-4.00	0.0681	0.020410	0.003990	0.000316	0.00097	10.199	0.306	-1.297	-0.022	-0.006	0.14	0.023	-0.007
-0.	0.0113	0.020027	0.001961	0.001005	0.00085	1.979	0.561	0.633	0.096	0.010	0.31	-0.029	0.006
4.00	-0.0450	0.019816	-0.000056	0.001788	0.00085	-6.102	0.842	2.640	0.225	0.027	0.52	-0.075	0.025
8.00	-0.1012	0.020388	-0.002155	0.002769	0.00096	-13.942	1.195	4.699	0.364	0.046	0.75	-0.134	0.037
12.00	-0.1588	0.020262	-0.004300	0.004042	0.00123	-21.468	1.518	6.777	0.502	0.063	1.00	-0.182	0.052
16.00	-0.2086	0.019784	-0.008547	0.005801	0.00171	-31.136	1.923	7.852	0.491	0.049	1.08	-0.170	0.042
20.00	-0.2598	0.019661	-0.013085	0.008310	0.00256	-40.055	2.381	9.029	0.511	0.044	1.25	-0.144	0.045
$\frac{C'_L}{\sigma} = 0.03$													
-4.00	0.0747	0.030001	0.006277	-0.000502	0.00105	11.331	0.836	-0.891	0.042	-0.001	0.42	0.010	-0.002
-0.	0.0180	0.030145	0.003237	0.000560	0.00086	3.120	1.107	1.033	0.162	0.016	0.61	-0.041	0.010
4.00	-0.0384	0.029964	0.000062	0.001804	0.00086	-4.980	1.395	3.027	0.289	0.033	0.80	-0.096	0.023
8.00	-0.0941	0.029893	-0.003228	0.003175	0.00098	-13.077	1.722	4.978	0.409	0.048	1.00	-0.143	0.036
12.00	-0.1491	0.029548	-0.007008	0.004875	0.00130	-21.345	2.064	6.762	0.498	0.055	1.19	-0.172	0.044
16.00	-0.2019	0.029802	-0.011733	0.007176	0.00198	-29.730	2.499	8.372	0.568	0.058	1.40	-0.172	0.051
20.00	-0.2523	0.029810	-0.017712	0.010357	0.00352	-38.432	2.978	9.661	0.591	0.050	1.62	-0.133	0.055

TABLE 2. - Continued

CALCULATED CHARACTERISTICS OF A ROTOR HAVING RECTANGULAR BLADES WITH A LINEAR TWIST OF 4°

(k) $\frac{V}{\Omega R} = 0.40$; $M_{(1.0, 90°)} = 0.8$ - Continued

$\theta_{.75R}$, deg	λ	$\frac{C'_L}{\sigma}$	$\frac{C'_D}{\sigma}$	$\frac{C_Q}{\sigma}$	$\frac{bC_{Q,D}}{\sigma}$	α_c, deg	a_0, deg	a_1, deg	a_2, deg	a_3, deg	b_1, deg	b_2, deg	b_3, deg
$\frac{C'_L}{\sigma} = 0.04$													
-4.00	0.0818	0.040047	0.009270	-0.001546	0.00113	12.562	1.403	-0.449	0.112	0.005	0.71	-0.007	0.002
-0.	0.0248	0.040340	0.005104	-0.000078	0.00085	4.296	1.665	1.450	0.231	0.022	0.90	-0.056	0.014
4.00	-0.0319	0.040057	0.000762	0.001615	0.00088	-3.853	1.938	3.423	0.355	0.038	1.10	-0.108	0.027
8.00	-0.0877	0.039902	-0.003645	0.003439	0.00104	-11.945	2.261	5.378	0.474	0.054	1.29	-0.153	0.040
12.00	-0.1425	0.039562	-0.008503	0.005588	0.00145	-20.145	2.611	7.199	0.567	0.061	1.50	-0.176	0.050
16.00	-0.1949	0.039870	-0.014293	0.008395	0.00272	-28.376	3.048	8.891	0.642	0.062	1.76	-0.159	0.063
20.00	-0.2445	0.039803	-0.021415	0.012286	0.00531	-36.782	3.526	10.376	0.684	0.054	2.08	-0.096	0.076
$\frac{C'_L}{\sigma} = 0.05$													
-4.00	0.0891	0.050097	0.012914	-0.002789	0.00127	13.841	1.983	0.011	0.184	0.012	1.01	-0.023	0.007
-0.	0.0319	0.050478	0.007557	-0.000899	0.00096	5.506	2.231	1.890	0.304	0.028	1.20	-0.074	0.018
4.00	-0.0252	0.050191	0.002053	0.001225	0.00094	-2.715	2.488	3.821	0.421	0.044	1.39	-0.120	0.031
8.00	-0.0812	0.049903	-0.003508	0.003523	0.00116	-10.813	2.800	5.781	0.540	0.060	1.59	-0.161	0.045
12.00	-0.1370	0.050426	-0.008746	0.006108	0.00217	-18.442	3.173	7.965	0.701	0.079	1.95	-0.172	0.074
16.00	-0.1876	0.049708	-0.016186	0.009540	0.00410	-27.020	3.575	9.461	0.732	0.069	2.17	-0.129	0.081
20.00	-0.2355	0.049657	-0.023979	0.014154	0.00930	-34.975	4.024	11.288	0.818	0.062	2.69	-0.021	0.107
$\frac{C'_L}{\sigma} = 0.06$													
-4.00	0.0969	0.060139	0.017279	-0.004224	0.00143	15.202	2.584	0.518	0.262	0.020	1.32	-0.044	0.012
-0.	0.0390	0.060086	0.010460	-0.001847	0.00108	6.693	2.777	2.340	0.378	0.035	1.49	-0.092	0.022
4.00	-0.0183	0.060437	0.003949	0.000643	0.00105	-1.537	3.051	4.245	0.492	0.050	1.70	-0.134	0.035
8.00	-0.0749	0.059525	-0.002826	0.003436	0.00141	-9.710	3.313	6.187	0.608	0.066	1.90	-0.164	0.051
12.00	-0.1303	0.059632	-0.008982	0.006565	0.00330	-17.340	3.656	8.436	0.783	0.085	2.32	-0.156	0.084
16.00	-0.1787	0.059856	-0.017122	0.010780	0.00840	-25.365	4.074	10.291	0.877	0.082	2.77	-0.055	0.114
20.00	-0.2209	0.059724	-0.023929	0.016207	0.01891	-32.240	4.379	12.985	1.069	0.054	4.03	0.213	0.183
$\frac{C'_L}{\sigma} = 0.07$													
-4.00	0.1054	0.070143	0.022420	-0.005832	0.00175	16.662	3.204	1.087	0.351	0.031	1.63	-0.066	0.018
-0.	0.0469	0.070125	0.014206	-0.003018	0.00148	8.037	3.366	2.886	0.474	0.047	1.81	-0.114	0.028
4.00	-0.0111	0.070200	0.006376	-0.000070	0.00127	-0.328	3.597	4.730	0.582	0.061	2.01	-0.148	0.040
8.00	-0.0675	0.069806	-0.001443	0.003196	0.00218	-8.469	3.860	6.682	0.702	0.076	2.27	-0.153	0.063
12.00	-0.1198	0.069731	-0.009123	0.007190	0.00708	-16.152	4.179	8.931	0.884	0.094	2.79	-0.082	0.108
16.00	-0.1624	0.069574	-0.015127	0.012456	0.02032	-22.627	4.397	12.040	1.174	0.071	4.26	0.233	0.212
20.00	-0.1998	0.069780	-0.020830	0.018953	0.03341	-28.557	4.698	15.155	1.262	-0.046	5.98	0.463	0.245

TABLE 2. - Continued

CALCULATED CHARACTERISTICS OF A ROTOR HAVING RECTANGULAR BLADES WITH A LINEAR TWIST OF -4°

(k) $\frac{V}{\Omega R} = 0.40$; $M_{(1.0,90^{\circ})} = 0.8$ - Concluded

$\theta_{.75R}$, deg	λ	$\frac{C'_L}{\sigma}$	$\frac{C'_D}{\sigma}$	$\frac{C_Q}{\sigma}$	$\frac{bC_{Q,D}}{\sigma}$	α_c, deg	a_0, deg	a_1, deg	a_2, deg	a_3, deg	b_1, deg	b_2, deg	b_3, deg
$\frac{C'_L}{\sigma} = 0.075$													
-4.00	0.1101	0.074809	0.024151	-0.006529	0.00250	16.645	3.468	1.466	0.440	0.044	1.85	-0.089	0.022
-0.	0.0517	0.075480	0.016551	-0.003689	0.00219	8.834	3.689	3.250	0.545	0.058	2.00	-0.128	0.029
4.00	-0.0067	0.075162	0.007940	-0.000477	0.00191	0.383	3.867	5.076	0.656	0.071	2.22	-0.149	0.044
8.00	-0.0630	0.075390	-0.000226	0.003108	0.00386	-7.666	4.143	7.124	0.799	0.091	2.57	-0.130	0.078
12.00	-0.1120	0.074561	-0.007676	0.007748	0.01363	-14.899	4.354	9.770	1.066	0.109	3.46	0.060	0.160
$\frac{C'_L}{\sigma} = 0.08$													
-4.00	0.1148	0.079689	0.028155	-0.007473	0.00320	18.167	3.825	1.785	0.470	0.048	1.96	-0.096	0.023
-0.	0.0562	0.079580	0.018655	-0.004186	0.00337	9.581	3.939	3.641	0.628	0.073	2.19	-0.128	0.036
4.00	-0.0015	0.079519	0.009627	-0.000716	0.00419	1.249	4.123	5.470	0.750	0.090	2.43	-0.133	0.054
8.00	-0.0471	0.079297	0.003118	0.004275	0.01004	-5.425	4.253	8.865	1.199	0.116	3.80	0.135	0.189
12.00	-0.0916	0.079515	-0.002933	0.009765	0.02906	-11.813	4.481	11.910	1.373	0.026	5.16	0.319	0.200
16.00	-0.1372	0.079522	-0.010033	0.015399	0.03699	-18.609	4.779	14.453	1.389	-0.058	6.23	0.426	0.278
20.00	-0.1799	0.079730	-0.017014	0.021495	0.04739	-25.196	5.150	16.912	1.330	-0.137	7.47	0.534	0.262

TABLE 2.- Continued

CALCULATED CHARACTERISTICS OF A ROTOR HAVING RECTANGULAR BLADES WITH A LINEAR TWIST OF -4°

(i) $\frac{V}{\Omega R} = 0.40$; $M_{(1.0,90°)} = 0.9$

$\theta_{.75R}$, deg		$\frac{C'_L}{\sigma}$	$\frac{C'_D}{\sigma}$	$\frac{C_Q}{\sigma}$	$\frac{bC_{Q,D}}{\sigma}$	α_c, deg	a_0, deg	a_1, deg	a_2, deg	a_3, deg	b_1, deg	b_2, deg	b_3, deg
$\frac{C'_L}{\sigma} = 0$													
-4.00	0.0548	-0.000106	0.001736	0.002455	0.00091	7.884	-0.775	-2.127	-0.172	-0.025	-0.46	0.067	-0.023
-0.	-0.0015	0.000016	0.001957	0.002174	0.00084	-0.221	-0.465	-0.134	-0.038	-0.004	-0.24	0.002	-0.007
4.00	-0.0582	-0.000196	0.002186	0.001996	0.00086	-8.373	-0.181	1.837	0.093	0.017	-0.04	-0.062	0.010
8.00	-0.1150	0.000208	0.002233	0.002219	0.00095	-16.202	0.137	3.864	0.237	0.039	0.20	-0.116	0.032
12.00	-0.1693	0.000043	0.001621	0.002464	0.00124	-25.089	0.467	5.470	0.320	0.047	0.37	-0.159	0.034
16.00	-0.2232	0.000151	0.000668	0.003292	0.00168	-33.973	0.819	6.906	0.380	0.047	0.55	-0.174	0.037
20.00	-0.2757	-0.000171	-0.000553	0.004590	0.00248	-43.621	1.186	7.843	0.384	0.039	0.66	-0.153	0.035
$\frac{C'_L}{\sigma} = 0.01$													
-4.00	0.0612	0.009936	0.002962	0.001932	0.00093	8.998	-0.228	-1.719	-0.104	-0.018	-0.16	0.051	-0.018
-0.	0.0046	0.009944	0.002087	0.002111	0.00084	0.838	0.065	0.248	0.027	0.002	0.04	-0.012	-0.002
4.00	-0.0519	0.009801	0.001189	0.002406	0.00085	-7.283	0.360	2.237	0.161	0.023	0.25	-0.077	0.014
8.00	-0.1078	0.009872	0.000025	0.002907	0.00098	-15.470	0.687	4.160	0.288	0.043	0.46	-0.133	0.030
12.00	-0.1625	0.010043	-0.001632	0.003807	0.00126	-23.854	1.036	5.914	0.386	0.053	0.66	-0.174	0.039
16.00	-0.2168	0.009550	-0.003726	0.005095	0.00181	-32.652	1.390	7.338	0.449	0.057	0.84	-0.180	0.047
20.00	-0.2681	0.009928	-0.007049	0.007280	0.00295	-41.870	1.843	8.481	0.461	0.048	1.00	-0.152	0.047
$\frac{C'_L}{\sigma} = 0.02$													
-4.00	0.0677	0.020145	0.004782	0.001216	0.00097	10.144	0.332	-1.302	-0.034	-0.011	0.14	0.034	-0.013
-0.	0.0108	0.019941	0.002763	0.001860	0.00085	1.911	0.602	0.636	0.092	0.009	0.33	-0.027	0.002
4.00	-0.0457	0.019805	0.000734	0.002631	0.00086	-6.201	0.899	2.633	0.227	0.030	0.54	-0.092	0.019
8.00	-0.1015	0.019862	-0.001500	0.003582	0.00098	-14.351	1.233	4.570	0.354	0.049	0.75	-0.148	0.034
12.00	-0.1564	0.020067	-0.004257	0.004953	0.00136	-22.646	1.600	6.357	0.454	0.059	0.96	-0.187	0.044
16.00	-0.2100	0.019667	-0.007693	0.006840	0.00220	-31.288	1.981	7.885	0.518	0.062	1.15	-0.187	0.054
20.00	-0.2610	0.019583	-0.012276	0.009627	0.00362	-40.267	2.429	9.082	0.531	0.051	1.34	-0.145	0.057
$\frac{C'_L}{\sigma} = 0.03$													
-4.00	0.0744	0.030261	0.007162	0.000324	0.00104	11.312	0.897	-0.872	0.037	-0.003	0.44	0.016	-0.008
-0.	0.0172	0.030052	0.003998	0.001417	0.00086	3.014	1.150	1.038	0.160	0.016	0.63	-0.042	0.007
4.00	-0.0394	0.029836	0.000823	0.002670	0.00087	-5.120	1.440	3.028	0.295	0.037	0.84	-0.107	0.023
8.00	-0.0953	0.029876	-0.002477	0.004082	0.00102	-13.240	1.778	4.978	0.422	0.056	1.05	-0.162	0.039
12.00	-0.1500	0.030080	-0.006331	0.005545	0.00162	-21.464	2.154	6.793	0.522	0.066	1.27	-0.195	0.051
16.00	-0.2032	0.029766	-0.010944	0.008406	0.00285	-29.934	2.543	8.393	0.588	0.065	1.50	-0.179	0.065
20.00	-0.2533	0.029724	-0.016838	0.011906	0.00498	-38.597	3.013	9.755	0.615	0.056	1.74	-0.128	0.072

TABLE 2. - Continued

CALCULATED CHARACTERISTICS OF A ROTOR HAVING RECTANGULAR BLADES WITH A LINEAR TWIST OF -4°

(I) $\frac{V}{\Omega R} = 0.40$; $M_{(1.0,90°)} = 0.9$ - Continued

$\theta_{.75R}$, deg	λ	$\frac{C'_L}{\sigma}$	$\frac{C'_D}{\sigma}$	$\frac{C_Q}{\sigma}$	$\frac{bC_{Q,D}}{\sigma}$	α_c, deg	a_0, deg	a_1, deg	a_2, deg	a_3, deg	b_1, deg	b_2, deg	b_3, deg
$\frac{C'_L}{\sigma} = 0.04$													
-4.00	0.0810	0.040007	0.010022	-0.000707	0.00111	12.450	1.447	-0.446	0.106	0.003	0.73	-0.003	-0.003
-0.	0.0239	0.040269	0.005820	0.000783	0.00085	4.154	1.711	1.458	0.231	0.023	0.93	-0.060	0.012
4.00	-0.0331	0.039895	0.001472	0.002519	0.00089	-4.033	1.985	3.427	0.362	0.043	1.13	-0.121	0.028
8.00	-0.0890	0.039870	-0.002920	0.004417	0.00117	-12.140	2.319	5.384	0.489	0.063	1.35	-0.173	0.045
12.00	-0.1435	0.040063	-0.007798	0.006774	0.00211	-20.277	2.698	7.245	0.595	0.073	1.60	-0.194	0.061
16.00	-0.1961	0.039763	-0.013450	0.009813	0.00394	-28.559	3.087	8.950	0.671	0.071	1.89	-0.159	0.081
20.00	-0.2451	0.039810	-0.020438	0.014085	0.00745	-36.877	3.558	10.519	0.714	0.060	2.22	-0.094	0.092
$\frac{C'_L}{\sigma} = 0.05$													
-4.00	0.0881	0.050056	0.013598	-0.001564	0.00123	13.687	2.029	0.015	0.180	0.011	1.03	-0.023	0.002
-0.	0.0307	0.050480	0.008236	-0.000035	0.00095	5.332	2.284	1.899	0.306	0.031	1.23	-0.080	0.016
4.00	-0.0267	0.050077	0.002711	0.002177	0.00098	-2.926	2.540	3.832	0.431	0.050	1.43	-0.135	0.032
8.00	-0.0827	0.049852	-0.002812	0.004589	0.00148	-11.030	2.857	5.800	0.560	0.070	1.66	-0.180	0.052
12.00	-0.1368	0.050030	-0.008640	0.007461	0.00293	-19.060	3.229	7.735	0.677	0.080	1.96	-0.180	0.075
16.00	-0.1884	0.049668	-0.015244	0.011192	0.00618	-27.120	3.602	9.585	0.769	0.077	2.35	-0.120	0.104
20.00	-0.2356	0.049602	-0.022804	0.016121	0.01131	-35.000	4.027	11.471	0.845	0.062	2.88	-0.008	0.130
$\frac{C'_L}{\sigma} = 0.06$													
-4.00	0.0956	0.060133	0.017883	-0.003398	0.00141	15.011	2.634	0.524	0.261	0.021	1.34	-0.047	0.008
-0.	0.0374	0.060080	0.011074	-0.000959	0.00108	6.470	2.831	2.347	0.382	0.039	1.53	-0.102	0.021
4.00	-0.0199	0.060366	0.004560	0.001651	0.00118	-1.775	3.107	4.264	0.506	0.058	1.75	-0.150	0.038
8.00	-0.0763	0.059634	-0.002110	0.004619	0.00208	-9.908	3.375	6.242	0.637	0.076	2.00	-0.176	0.061
12.00	-0.1294	0.059984	-0.008847	0.008128	0.00479	-17.759	3.746	8.304	0.777	0.088	2.39	-0.149	0.095
16.00	-0.1790	0.059991	-0.016064	0.012693	0.01041	-25.401	4.110	10.452	0.910	0.084	2.97	-0.053	0.134
20.00	-0.2213	0.059512	-0.022733	0.018250	0.02022	-32.343	4.382	13.061	1.070	0.052	4.13	0.195	0.198
$\frac{C'_L}{\sigma} = 0.07$													
-4.00	0.1039	0.070228	0.022968	-0.004994	0.00190	16.456	3.261	1.112	0.357	0.034	1.66	-0.073	0.016
-0.	0.0453	0.070193	0.014782	-0.002102	0.00152	7.796	3.424	2.912	0.486	0.053	1.87	-0.123	0.029
4.00	-0.0127	0.070163	0.006992	0.000996	0.00167	-0.566	3.642	4.783	0.607	0.070	2.11	-0.148	0.051
8.00	-0.0684	0.070306	-0.000632	0.004561	0.00356	-8.583	3.935	6.815	0.746	0.087	2.44	-0.150	0.080
12.00	-0.1202	0.069656	-0.008160	0.008965	0.00914	-16.217	4.203	9.110	0.928	0.098	3.02	-0.060	0.136
16.00	-0.1623	0.069572	-0.013850	0.014544	0.02236	-22.616	4.415	12.205	1.189	0.065	4.46	0.228	0.230
20.00	-0.2004	0.069848	-0.019661	0.021088	0.03444	-28.662	4.719	15.190	1.251	-0.041	6.02	0.427	0.253

TABLE 2. - Continued

CALCULATED CHARACTERISTICS OF A ROTOR HAVING RECTANGULAR BLADES WITH A LINEAR TWIST OF -4°

(l) $\frac{V}{\Omega R} = 0.40$; $M_{(1.0, 90°)} = 0.9$ - Concluded

$\theta_{.75R}$, deg	λ	$\frac{C'_L}{\sigma}$	$\frac{C'_D}{\sigma}$	$\frac{C_Q}{\sigma}$	$\frac{bC_{Q,D}}{\sigma}$	α_c, deg	a_0, deg	a_1, deg	a_2, deg	a_3, deg	b_1, deg	b_2, deg	b_3, deg
$\frac{C'_L}{\sigma} = 0.075$													
0.	0.0500	0.075300	0.017015	-0.002692	0.00243	8.561	3.724	3.312	0.570	0.067	2.09	-0.128	0.037
4.00	-0.0081	0.075129	0.008623	0.000684	0.00261	0.179	3.918	5.196	0.701	0.086	2.35	-0.144	0.061
8.00	-0.0638	0.075365	0.00060	0.004660	0.00545	-7.815	4.189	7.225	0.833	0.098	2.74	-0.119	0.097
12.00	-0.1112	0.074539	-0.000246	0.009777	0.01679	-14.714	4.365	10.094	1.125	0.104	3.82	0.101	0.194
$\frac{C'_L}{\sigma} = 0.08$													
0.	0.0558	0.079701	0.019200	-0.002997	0.00488	9.344	3.986	3.947	0.719	0.095	2.41	-0.117	0.059
4.00	-0.0005	0.079729	0.010701	0.000937	0.00840	1.355	4.168	6.010	0.899	0.117	2.82	-0.094	0.090
8.00	-0.0464	0.079549	0.004507	0.006319	0.02135	-5.239	4.316	9.211	1.248	0.103	4.12	0.132	0.207
12.00	-0.0914	0.079655	-0.001550	0.011386	0.03109	-11.770	4.529	12.130	1.382	0.019	5.34	0.298	0.278

TABLE 2. - Continued

CALCULATED CHARACTERISTICS OF A ROTOR HAVING RECTANGULAR BLADES WITH A LINEAR TWIST OF -4°

(m) $\frac{V}{\Omega R} = 0.45$; $M_{(1.0, 90°)} = 0.8$

$\theta_{.75R}$, deg	λ	$\frac{C'_L}{\sigma}$	$\frac{C'_D}{\sigma}$	$\frac{C_Q}{\sigma}$	$\frac{bC_{Q,D}}{\sigma}$	α_c, deg	a_0, deg	a_1, deg	a_2, deg	a_3, deg	b_1, deg	b_2, deg	b_3, deg
$\frac{C'_L}{\sigma} = 0$													
-4.00	0.0562	0.000143	0.001014	0.001554	0.00088	7.192	-0.825	-2.350	-0.197	-0.024	-0.53	0.059	-0.021
-2.	-0.0019	0.000050	0.001267	0.001353	0.00082	-0.247	-0.536	-0.157	-0.040	-0.002	-0.31	-0.007	-0.004
4.00	-0.0607	-0.000318	0.001613	0.001220	0.00084	-7.687	-0.277	2.026	0.116	0.023	-0.09	-0.066	0.020
8.00	-0.1182	-0.000159	0.001638	0.001305	0.00096	-15.250	0.029	4.126	0.257	0.040	0.14	-0.128	0.031
12.00	-0.1749	0.000081	0.001308	0.001706	0.00118	-22.901	0.353	6.108	0.383	0.053	0.37	-0.175	0.041
16.00	-0.2306	-0.000271	0.000746	0.002380	0.00152	-30.901	0.666	7.823	0.475	0.059	0.57	-0.193	0.048
20.00	-0.2845	-0.000279	-0.000318	0.003493	0.00200	-39.280	1.023	9.168	0.515	0.053	0.75	-0.189	0.048
$\frac{C'_L}{\sigma} = 0.01$													
-4.00	0.0630	0.010365	0.002127	0.001074	0.00090	8.206	-0.271	-1.892	-0.113	-0.016	-0.20	0.043	-0.016
-2.	0.0045	0.010055	0.001381	0.001308	0.00082	0.709	-0.010	0.265	0.037	0.006	0.01	-0.021	0.002
4.00	-0.0537	0.010308	0.000692	0.001627	0.00083	-6.665	0.289	2.495	0.202	0.031	0.26	-0.082	0.026
8.00	-0.1116	0.009898	-0.000183	0.002096	0.00094	-14.224	0.583	4.587	0.340	0.050	0.46	-0.148	0.035
12.00	-0.1686	0.009508	-0.001356	0.002844	0.00118	-21.904	0.874	6.554	0.458	0.060	0.68	-0.184	0.048
16.00	-0.2238	0.009859	-0.003220	0.004072	0.00155	-29.709	1.257	8.348	0.554	0.066	0.90	-0.208	0.054
20.00	-0.2773	0.009910	-0.005767	0.005843	0.00222	-37.908	1.653	9.764	0.594	0.059	1.11	-0.195	0.055
$\frac{C'_L}{\sigma} = 0.02$													
-4.00	0.0694	0.019973	0.003661	0.000445	0.00095	9.166	0.239	-1.454	-0.034	-0.009	0.11	0.029	-0.009
-2.	0.0109	0.020121	0.002024	0.001051	0.00083	1.678	0.520	0.694	0.115	0.013	0.33	-0.035	0.008
4.00	-0.0474	0.019810	0.000335	0.001792	0.00083	-5.761	0.789	2.903	0.277	0.037	0.57	-0.089	0.034
8.00	-0.1051	0.019950	-0.001491	0.002695	0.00094	-13.221	1.121	5.035	0.419	0.057	0.78	-0.161	0.041
12.00	-0.1621	0.019558	-0.003655	0.003866	0.00121	-20.845	1.429	7.025	0.537	0.068	1.01	-0.197	0.054
16.00	-0.2214	0.019962	-0.005666	0.005501	0.00178	-27.578	1.787	9.326	0.708	0.087	1.36	-0.226	0.080
20.00	-0.2699	0.020171	-0.010459	0.007950	0.00280	-36.587	2.255	10.366	0.676	0.064	1.51	-0.182	0.070
$\frac{C'_L}{\sigma} = 0.03$													
-4.00	0.0762	0.029996	0.005777	-0.000407	0.00103	10.195	0.785	-0.982	0.051	-0.001	0.44	0.012	-0.003
-2.	0.0176	0.030262	0.003198	0.000586	0.00084	2.672	1.061	1.142	0.198	0.021	0.66	-0.052	0.013
4.00	-0.0408	0.029920	0.000510	0.001763	0.00084	-4.779	1.325	3.343	0.357	0.044	0.90	-0.104	0.039
8.00	-0.0986	0.029949	-0.002254	0.003081	0.00098	-12.229	1.657	5.482	0.500	0.064	1.11	-0.175	0.047
12.00	-0.1555	0.029635	-0.005389	0.004679	0.00131	-19.795	1.981	7.500	0.619	0.075	1.34	-0.207	0.061
16.00	-0.2103	0.030021	-0.009320	0.006865	0.00215	-27.418	2.383	9.377	0.715	0.078	1.62	-0.206	0.074
20.00	-0.2629	0.030009	-0.014189	0.009844	0.00401	-35.247	2.813	11.011	0.770	0.070	1.94	-0.156	0.088

TABLE 2. - Continued

CALCULATED CHARACTERISTICS OF A ROTOR HAVING RECTANGULAR BLADES WITH A LINEAR TWIST OF -4°

(m) $\frac{V}{\Omega R} = 0.45$; $M_{(1.0,90°)} = 0.8$ - Continued

$\theta_{.75R}$, deg	λ	$\frac{C'_L}{\sigma}$	$\frac{C'_D}{\sigma}$	$\frac{C_Q}{\sigma}$	$\frac{bC_{Q,D}}{\sigma}$	α_c, deg	a_0, deg	a_1, deg	a_2, deg	a_3, deg	b_1, deg	b_2, deg	b_3, deg
$\frac{C'_L}{\sigma} = 0.04$													
-4.00	0.0833	0.040052	0.008441	-0.001449	0.00113	11.261	1.342	-0.486	0.139	0.008	0.77	-0.007	0.004
-[illegible]	0.0242	0.040027	0.004829	-0.000050	0.00088	3.651	1.587	1.594	0.280	0.029	0.98	-0.069	0.019
4.00	-0.0342	0.040110	0.001235	0.001520	0.00088	-3.793	1.881	3.776	0.436	0.052	1.21	-0.132	0.037
8.00	-0.0921	0.039957	-0.002520	0.003279	0.00106	-11.245	2.192	5.924	0.580	0.072	1.44	-0.187	0.053
12.00	-0.1489	0.039641	-0.006597	0.005316	0.00156	-18.760	2.521	7.972	0.702	0.083	1.69	-0.210	0.071
16.00	-0.2033	0.039960	-0.011393	0.008010	0.00311	-26.264	2.924	9.935	0.808	0.086	2.03	-0.187	0.092
20.00	-0.2549	0.039898	-0.017198	0.011697	0.00705	-33.844	3.342	11.766	0.889	0.078	2.50	-0.095	0.117
$\frac{C'_L}{\sigma} = 0.05$													
-4.00	0.0906	0.050114	0.011693	-0.002692	0.00128	12.367	1.909	0.833	0.230	0.017	1.11	-0.030	0.011
-[illegible]	0.0312	0.050067	0.007048	-0.000895	0.00098	4.698	2.139	2.091	0.373	0.038	1.31	-0.089	0.026
4.00	-0.0275	0.050274	0.002528	0.001050	0.00096	-2.793	2.430	4.227	0.519	0.060	1.54	-0.147	0.042
8.00	-0.0864	0.049701	-0.002096	0.003251	0.00125	-10.216	2.699	6.452	0.682	0.085	1.81	-0.190	0.069
12.00	-0.1418	0.050155	-0.007254	0.005834	0.00227	-17.641	3.088	8.506	0.801	0.094	2.09	-0.206	0.082
16.00	-0.1957	0.049721	-0.012845	0.009151	0.00603	-25.038	3.429	10.594	0.929	0.096	2.55	-0.131	0.121
20.00	-0.2443	0.049810	-0.018783	0.013526	0.01342	-32.064	3.788	12.901	1.075	0.081	3.43	0.065	0.177
$\frac{C'_L}{\sigma} = 0.06$													
-4.00	0.0984	0.060210	0.015616	-0.004141	0.00149	13.547	2.496	0.607	[illegible].332	0.029	1.45	-0.052	0.016
-[illegible]	0.0388	0.060138	0.009862	-0.001927	0.00116	5.808	2.710	2.644	0.478	0.051	1.65	-0.117	0.030
4.00	-0.0203	0.060459	0.004380	0.000384	0.00112	-1.735	2.975	4.748	0.622	0.071	1.91	-0.150	0.057
8.00	-0.0795	0.059750	-0.001291	0.003065	0.00171	-9.215	3.233	6.935	0.778	0.096	2.18	-0.184	0.082
12.00	-0.1343	0.059870	-0.007292	0.006314	0.00483	-16.500	3.578	9.127	0.927	0.107	2.59	-0.153	0.113
16.00	-0.1848	0.059679	-0.012951	0.010448	0.01345	-23.340	3.862	11.704	1.142	0.103	3.51	0.046	0.191
20.00	-0.2278	0.059713	-0.017865	0.015737	0.02536	-29.454	4.113	14.639	1.291	0.021	5.14	0.370	0.266
$\frac{C'_L}{\sigma} = 0.07$													
-4.00	0.1069	0.070271	0.020229	-0.005729	0.00213	14.828	3.097	1.273	0.452	0.045	1.81	-0.079	0.028
-[illegible]	0.0472	0.070156	0.013371	-0.003120	0.00212	7.043	3.281	3.342	0.623	0.072	2.05	-0.136	0.043
4.00	-0.0120	0.070246	0.006834	-0.000323	0.00268	-0.535	3.520	5.467	0.788	0.099	2.33	-0.168	0.062
8.00	-0.0710	0.069675	-0.000007	0.002938	0.00407	-8.097	3.753	7.509	0.906	0.112	2.63	-0.151	0.098
12.00	-0.1201	0.069575	-0.005319	0.007354	0.01640	-14.483	3.953	10.600	1.249	0.122	3.87	0.121	0.221
16.00	-0.1636	0.069775	-0.009766	0.012759	0.02942	-20.292	4.192	13.800	1.427	0.015	5.55	0.397	0.297
20.00	-0.2083	0.069810	-0.015365	0.018469	0.03888	-26.508	4.518	16.427	1.420	-0.087	6.90	0.546	0.295

TABLE 2. - Continued

CALCULATED CHARACTERISTICS OF A ROTOR HAVING RECTANGULAR BLADES WITH A LINEAR TWIST OF -4°

(m) $\frac{V}{\Omega R} = 0.45$; $M_{(1.0,90°)} = 0.8$ - Concluded

$\theta_{.75R}$, deg	λ	$\frac{C'_L}{\sigma}$	$\frac{C'_D}{\sigma}$	$\frac{C_Q}{\sigma}$	$\frac{bC_{Q,D}}{\sigma}$	α_c, deg	a_0, deg	a_1, deg	a_2, deg	a_3, deg	b_1, deg	b_2, deg	b_3, deg
$\frac{C'_L}{\sigma} = 0.075$													
-4.00	0.1107	0.074265	0.022313	-0.006384	0.00275	15.393	3.343	1.591	0.512	0.055	1.97	-0.089	0.033
-0.	0.0517	0.074472	0.01490	-0.003652	0.00300	7.921	3.556	3.633	0.675	0.082	2.19	-0.133	0.049
4.00	-0.0080	0.073633	0.007758	-0.000505	0.00361	0.062	3.725	5.564	0.800	0.100	2.40	-0.155	0.061
8.00	-0.0579	0.073538	0.00230	0.003921	0.01715	-6.359	3.854	9.086	1.283	0.134	3.79	0.103	0.213
12.00	-0.1073	0.073641	-0.002772	0.008620	0.02672	-12.745	4.084	11.906	1.444	0.059	5.01	0.302	0.286
$\frac{C'_L}{\sigma} = 0.078$													
-4.00	0.1151	0.077857	0.02400	-0.006804	0.00395	15.392	3.532	2.036	0.631	0.075	2.20	-0.112	0.040
-0.	0.0560	0.077503	0.016624	-0.003807	0.00561	8.276	3.705	4.220	0.828	0.109	2.49	-0.128	0.066
4.00	0.0033	0.077730	0.010343	0.000279	0.01503	1.529	3.875	7.214	1.198	0.142	3.40	0.002	0.166
8.00	-0.0470	0.077538	0.004794	0.004871	0.02479	-4.912	4.050	10.175	1.427	0.086	4.55	0.183	0.268
12.00	-0.0972	0.077698	-0.000817	0.009667	0.03264	-11.376	4.282	12.858	1.520	0.002	5.68	0.332	0.322
$\frac{C'_L}{\sigma} = 0.08$													
-4.00	0.1172	0.080116	0.025581	-0.007274	0.00434	16.273	3.710	2.172	0.628	0.073	2.23	-0.112	0.037
-0.	0.0597	0.079677	0.017758	-0.003792	0.00806	8.784	3.832	4.623	0.921	0.123	2.68	-0.117	0.077
4.00	0.0082	0.079663	0.011520	0.000606	0.01829	2.174	3.971	7.712	1.275	0.130	3.72	0.046	0.199
8.00	-0.0421	0.079678	0.005915	0.005283	0.02751	-4.246	4.160	10.636	1.467	0.062	4.86	0.205	0.293
12.00	-0.0933	0.079621	-0.000026	0.010079	0.03475	-10.841	4.389	13.212	1.540	-0.015	5.89	0.329	0.334
16.00	-0.1427	0.079674	-0.006110	0.015311	0.04275	-17.351	4.678	15.659	1.539	-0.093	7.00	0.456	0.338
20.00	-0.1895	0.079731	-0.012007	0.020733	0.05369	-23.728	5.015	17.984	1.469	-0.167	8.33	0.609	0.309

TABLE 2. - Continued

CALCULATED CHARACTERISTICS OF A ROTOR HAVING RECTANGULAR BLADES WITH A LINEAR TWIST OF -4°

(n) $\frac{V}{\Omega R} = 0.45$; $M_{(1.0,90°)} = 0.9$

$\theta_{.75R}$, deg	λ	$\frac{C'_L}{\sigma}$	$\frac{C'_D}{\sigma}$	$\frac{C_Q}{\sigma}$	$\frac{bC_{Q,D}}{\sigma}$	α_c, deg	a_0, deg	a_1, deg	a_2, deg	a_3, deg	b_1, deg	b_2, deg	b_3, deg
$\frac{C'_L}{\sigma} = 0$													
-4.00	0.0564	-0.000034	0.001951	0.002558	0.00088	7.210	-0.796	-2.354	-0.213	-0.032	-0.53	0.078	-0.029
-0.	-0.0020	-0.000151	0.002178	0.002273	0.00082	-0.259	-0.505	-0.168	-0.050	-0.005	-0.30	0.001	-0.009
4.00	-0.0607	0.000011	0.002491	0.002138	0.00084	-7.685	-0.214	2.021	0.111	0.022	-0.06	-0.074	0.013
8.00	-0.1185	-0.000111	0.002477	0.002133	0.00097	-15.291	0.081	4.115	0.263	0.045	0.19	-0.139	0.032
12.00	-0.1755	0.000103	0.002143	0.002526	0.00120	-22.978	0.408	6.093	0.394	0.062	0.42	-0.194	0.045
16.00	-0.2314	-0.000239	0.001559	0.003230	0.00164	-31.015	0.728	7.810	0.491	0.070	0.63	-0.218	0.054
20.00	-0.2854	-0.000288	0.000479	0.004444	0.00245	-39.443	1.086	9.163	0.532	0.063	0.82	-0.208	0.055
$\frac{C'_L}{\sigma} = 0.01$													
-4.00	0.0628	0.010078	0.003021	0.002057	0.00090	8.184	-0.251	-1.900	-0.128	-0.023	-0.20	0.059	-0.023
-0.	0.0041	0.009802	0.002268	0.002225	0.00082	0.664	0.021	0.256	0.029	0.003	0.02	-0.015	-0.003
4.00	-0.0544	0.009651	0.001582	0.002481	0.00083	-6.805	0.297	2.442	0.191	0.030	0.27	-0.084	0.023
8.00	-0.1121	0.009951	0.000658	0.002961	0.00095	-14.296	0.637	4.579	0.347	0.056	0.51	-0.162	0.037
12.00	-0.1694	0.009520	-0.000517	0.003722	0.00124	-22.010	0.931	6.541	0.472	0.070	0.74	-0.206	0.052
16.00	-0.2247	0.009884	-0.002391	0.005033	0.00185	-29.851	1.309	8.333	0.569	0.075	0.98	-0.227	0.062
20.00	-0.2782	0.009864	-0.004912	0.006947	0.00295	-38.077	1.709	9.770	0.614	0.069	1.20	-0.207	0.067
$\frac{C'_L}{\sigma} = 0.02$													
-4.00	0.0694	0.020263	0.004623	0.001359	0.00095	9.182	0.302	-1.433	-0.042	-0.014	0.13	0.038	-0.016
-0.	0.0104	0.019845	0.002875	0.001970	0.00083	1.601	0.553	0.687	0.109	0.012	0.35	-0.032	0.004
4.00	-0.0481	0.019740	0.001188	0.002694	0.00083	-5.857	0.844	2.881	0.273	0.039	0.59	-0.109	0.025
8.00	-0.1071	0.019506	-0.000337	0.003675	0.00096	-13.203	1.136	5.096	0.440	0.066	0.84	-0.181	0.046
12.00	-0.1626	0.020229	-0.002938	0.004893	0.00138	-20.906	1.530	7.047	0.559	0.080	1.09	-0.226	0.058
16.00	-0.2180	0.019961	-0.005737	0.006658	0.00228	-28.710	1.881	8.856	0.652	0.082	1.34	-0.229	0.074
20.00	-0.2711	0.019958	-0.009451	0.009219	0.00386	-36.733	2.299	10.394	0.700	0.074	1.61	-0.193	0.083
$\frac{C'_L}{\sigma} = 0.03$													
-4.00	0.0757	0.029964	0.006654	0.000520	0.00102	10.135	0.830	-0.978	0.042	-0.005	0.46	0.019	-0.010
-0.	0.0168	0.029969	0.004004	0.001511	0.00084	2.563	1.095	1.135	0.193	0.021	0.68	-0.052	0.010
4.00	-0.0418	0.029800	0.001333	0.002692	0.00085	-4.907	1.383	3.325	0.356	0.048	0.92	-0.127	0.030
8.00	-0.1002	0.030384	-0.001191	0.00390	0.00105	-12.200	1.722	5.583	0.531	0.076	1.21	-0.198	0.053
12.00	-0.1562	0.030227	-0.004629	0.005785	0.00169	-19.882	2.077	7.527	0.643	0.088	1.43	-0.234	0.067
16.00	-0.2113	0.029950	-0.008435	0.008101	0.00301	-27.576	2.432	9.392	0.740	0.089	1.74	-0.215	0.090
20.00	-0.2636	0.029920	-0.013206	0.011351	0.00566	-35.372	2.844	11.070	0.797	0.078	2.10	-0.149	0.109

TABLE 2. - Continued

CALCULATED CHARACTERISTICS OF A ROTOR HAVING RECTANGULAR BLADES WITH A LINEAR TWIST OF -4°

(n) $\frac{V}{\Omega R} = 0.45$; $M_{(1.0,90^\circ)} = 0.9$ - Continued

$\theta_{.75R}$, deg	λ	$\frac{C'_L}{\sigma}$	$\frac{C'_D}{\sigma}$	$\frac{C_Q}{\sigma}$	$\frac{bC_{Q,D}}{\sigma}$	α_c, deg	a_0, deg	a_1, deg	a_2, deg	a_3, deg	b_1, deg	b_2, deg	b_3, deg
$\frac{C'_L}{\sigma} = 0.04$													
-4.00	0.0825	0.040000	0.009270	-0.000539	0.00110	11.164	1.388	-0.487	0.131	0.005	0.79	-0.003	-0.003
-0.	0.0234	0.040264	0.005687	0.000845	0.00088	3.566	1.655	1.610	0.282	0.031	1.01	-0.074	0.016
4.00	-0.0354	0.039876	0.002014	0.002480	0.00089	-3.953	1.926	3.772	0.441	0.057	1.25	-0.145	0.036
8.00	-0.0933	0.039929	-0.001719	0.004298	0.00122	-11.408	2.252	5.925	0.594	0.082	1.50	-0.208	0.056
12.00	-0.1501	0.039538	-0.005756	0.006477	0.00219	-18.929	2.571	7.984	0.725	0.095	1.79	-0.224	0.083
16.00	-0.2043	0.039847	-0.010471	0.009432	0.00459	-26.405	2.961	9.978	0.837	0.095	2.19	-0.184	0.113
20.00	-0.2613	0.039955	-0.01580	0.01290	0.01027	-32.570	3.260	12.555	1.034	0.092	2.98	-0.073	0.174
$\frac{C'_L}{\sigma} = 0.05$													
-4.00	0.0896	0.050069	0.012472	-0.001798	0.00125	12.237	1.957	0.032	0.224	0.016	1.13	-0.028	0.005
-0.	0.0300	0.050037	0.007811	0.000034	0.00097	4.545	2.193	2.092	0.372	0.041	1.35	-0.097	0.022
4.00	-0.0289	0.050077	0.003256	0.002055	0.00101	-2.981	2.479	4.227	0.527	0.067	1.59	-0.162	0.042
8.00	-0.0870	0.049905	-0.001483	0.004385	0.00160	-10.438	2.785	6.384	0.680	0.091	1.85	-0.213	0.066
12.00	-0.1430	0.050076	-0.006403	0.007168	0.00342	-17.796	3.133	8.551	0.830	0.105	2.23	-0.207	0.101
16.00	-0.1964	0.049678	-0.011855	0.010787	0.00760	-25.137	3.460	10.672	0.957	0.101	2.75	-0.118	0.146
20.00	-0.2446	0.049815	-0.017598	0.015442	0.01493	-32.123	3.807	12.975	1.086	0.078	3.62	0.066	0.197
$\frac{C'_L}{\sigma} = 0.06$													
-4.00	0.0972	0.060204	0.016333	-0.003246	0.00145	13.390	2.547	0.610	0.329	0.030	1.48	-0.054	0.014
-0.	0.0373	0.060129	0.010584	-0.000991	0.00116	5.620	2.761	2.642	0.479	0.054	1.70	-0.121	0.031
4.00	-0.0222	0.060023	0.004993	0.001470	0.00128	-1.985	3.018	4.721	0.623	0.078	1.94	-0.175	0.052
8.00	-0.0802	0.059906	-0.000671	0.004327	0.00239	-9.421	3.312	6.892	0.780	0.101	2.25	-0.201	0.082
12.00	-0.1351	0.059853	-0.006385	0.007870	0.00630	-16.611	3.618	9.215	0.960	0.114	2.78	-0.140	0.137
16.00	-0.1851	0.059647	-0.011815	0.012318	0.01510	-23.401	3.888	11.794	1.159	0.102	3.72	0.055	0.213
20.00	-0.2286	0.059511	-0.016642	0.017751	0.02657	-29.602	4.129	14.631	1.288	0.022	5.22	0.346	0.277
$\frac{C'_L}{\sigma} = 0.07$													
-4.00	0.1097	0.070376	0.020930	-0.004822	0.00220	14.674	3.156	1.307	0.460	0.050	1.86	-0.083	0.026
-0.	0.0458	0.070272	0.014099	-0.002142	0.00229	6.868	3.339	3.383	0.640	0.081	2.13	-0.139	0.047
4.00	-0.0133	0.070407	0.007592	0.000846	0.00325	-0.697	3.583	5.528	0.814	0.110	2.45	-0.170	0.071
8.00	-0.0721	0.069559	0.000788	0.004399	0.00545	-8.240	3.796	7.597	0.938	0.120	2.80	-0.143	0.115
12.00	-0.1204	0.069601	-0.00470	0.00900	0.01862	-14.529	3.993	10.714	1.268	0.116	4.11	0.130	0.240
16.00	-0.1648	0.069696	-0.008638	0.014773	0.03036	-20.469	4.235	13.803	1.422	0.018	5.61	0.365	0.304
20.00	-0.2098	0.069545	-0.014229	0.020552	0.03927	-26.739	4.532	16.382	1.407	-0.079	6.91	0.521	0.308

TABLE 2. - Continued

CALCULATED CHARACTERISTICS OF A ROTOR HAVING RECTANGULAR BLADES WITH A LINEAR TWIST OF -4°

(n) $\frac{V}{\Omega R}$ = 0.45; $M_{(1.0,90°)}$ = 0.9 - Concluded

$\theta_{.75R}$, deg	λ	$\frac{C'_L}{\sigma}$	$\frac{C'_D}{\sigma}$	$\frac{C_Q}{\sigma}$	$\frac{bC_{Q,D}}{\sigma}$	α_c, deg	a_0, deg	a_1, deg	a_2, deg	a_3, deg	b_1, deg	b_2, deg	b_3, deg
$\frac{C'_L}{\sigma}$ = 0.074													
-4.00	0.1096	0.074440	0.023043	-0.005464	0.00295	15.259	3.405	1.655	0.529	0.061	2.04	-0.093	0.034
-0.	0.0505	0.074482	0.015853	-0.002519	0.00398	7.538	3.588	3.843	0.747	0.101	2.36	-0.143	0.056
4.00	-0.0079	0.073516	0.008809	0.001048	0.00770	0.038	3.727	6.149	0.976	0.136	2.85	-0.104	0.111
8.00	-0.0585	0.073658	0.003542	0.005679	0.01925	-6.433	3.921	9.175	1.297	0.129	3.99	0.093	0.220
12.00	-0.1080	0.073664	-0.001598	0.010587	0.02812	-12.850	4.134	11.970	1.447	0.056	5.17	0.285	0.295
$\frac{C'_L}{\sigma}$ = 0.078													
-4.00	0.1140	0.078309	0.02500	-0.006025	0.00409	15.888	3.649	2.057	0.611	0.076	2.23	-0.103	0.041
-0.	0.0545	0.077660	0.017426	-0.002884	0.00536	8.356	3.793	4.096	0.790	0.107	2.49	-0.135	0.081
4.00	0.0028	0.077614	0.011229	0.001911	0.01673	1.458	3.922	7.328	1.216	0.137	3.41	0.009	0.182
8.00	-0.0477	0.077574	0.005902	0.006748	0.02622	-4.995	4.105	10.260	1.432	0.081	4.73	0.171	0.278
12.00	-0.0989	0.077505	0.000212	0.011653	0.03347	-11.603	4.329	12.852	1.513	0.006	5.74	0.300	0.324
$\frac{C'_L}{\sigma}$ = 0.08													
-4.00	0.1165	0.079793	0.025505	-0.005833	0.00543	15.588	3.709	2.399	0.708	0.093	2.41	-0.115	0.047
-0.	0.0595	0.079697	0.018571	-0.002390	0.00980	8.764	3.881	4.821	0.967	0.130	2.89	-0.097	0.099
4.00	0.0075	0.079527	0.012410	0.002294	0.01980	2.085	4.019	7.802	1.283	0.124	3.90	0.042	0.210
8.00	-0.0428	0.079702	0.007037	0.007214	0.02890	-4.340	4.218	10.717	1.467	0.059	5.01	0.186	0.301
12.00	-0.0942	0.079643	0.001172	0.012189	0.03591	-10.970	4.445	13.283	1.534	-0.013	5.99	0.303	0.340
16.00	-0.1440	0.079701	-0.004899	0.017549	0.04355	-17.521	4.729	15.710	1.529	-0.087	7.04	0.424	0.343
20.00	-0.1909	0.079744	-0.010655	0.022836	0.05450	-23.927	5.048	18.003	1.458	-0.155	8.32	0.579	0.311

TABLE 2.- Continued

CALCULATED CHARACTERISTICS OF A ROTOR HAVING RECTANGULAR BLADES WITH A LINEAR TWIST OF -4°

(o) $\frac{V}{\Omega R} = 0.50$: $M_{(1.0,90°)} = 0.8$

$\theta_{.75R}$, deg	λ	$\frac{C'_L}{\sigma}$	$\frac{C'_D}{\sigma}$	$\frac{C_Q}{\sigma}$	$\frac{bC_{Q,D}}{\sigma}$	α_c, deg	a_0, deg	a_1, deg	a_2, deg	a_3, deg	b_1, deg	b_2, deg	b_3, deg
$\frac{C'_L}{\sigma} = 0$													
-4.00	0.0581	0.000392	0.001199	0.001606	0.00085	6.689	-0.846	-2.567	-0.240	-0.032	-0.61	0.069	-0.029
-0.	-0.0023	0.000115	0.001432	0.001404	0.00080	-0.257	-0.567	-0.182	-0.051	-0.002	-0.36	-0.010	-0.006
4.00	-0.0631	-0.000382	0.001820	0.001233	0.00082	-7.257	-0.318	2.164	0.132	0.030	-0.12	-0.078	0.025
8.00	-0.1228	-0.000042	0.001957	0.001325	0.00093	-14.237	-0.015	4.481	0.304	0.052	0.15	-0.151	0.040
12.00	-0.1817	0.000179	0.001813	0.001699	0.00114	-21.329	0.298	6.685	0.463	0.071	0.41	-0.206	0.054
16.00	-0.2392	0.000025	0.001399	0.002351	0.00147	-28.658	0.601	8.672	0.586	0.078	0.67	-0.233	0.066
20.00	-0.2949	0.000125	0.000451	0.003464	0.00200	-36.228	0.959	10.360	0.661	0.076	0.91	-0.239	0.067
$\frac{C'_L}{\sigma} = 0.01$													
-4.00	0.0644	0.009948	0.002093	0.001193	0.00088	7.523	-0.342	-2.091	-0.144	-0.023	-0.21	0.054	-0.020
-0.	0.0041	0.010129	0.001518	0.001367	0.00080	0.584	-0.048	0.278	0.041	0.007	-0.01	-0.026	0.002
4.00	-0.0565	0.009703	0.001008	0.001630	0.00081	-6.381	0.211	2.655	0.230	0.040	0.24	-0.093	0.033
8.00	-0.1163	0.010003	0.000346	0.002090	0.00091	-13.344	0.522	4.977	0.401	0.062	0.50	-0.149	0.047
12.00	-0.1754	0.009619	-0.000523	0.002782	0.00116	-20.467	0.811	7.164	0.552	0.079	0.76	-0.218	0.064
16.00	-0.2325	0.010129	-0.002022	0.003948	0.00156	-27.642	1.176	9.220	0.680	0.087	1.05	-0.243	0.076
20.00	-0.2881	0.010240	-0.004102	0.005627	0.00239	-35.103	1.556	10.961	0.755	0.083	1.31	-0.240	0.079
$\frac{C'_L}{\sigma} = 0.02$													
-4.00	0.0711	0.019972	0.003517	0.000543	0.00093	8.410	0.191	-1.589	-0.044	-0.012	0.09	0.035	-0.012
-0.	0.0105	0.020247	0.002113	0.001102	0.00081	1.440	0.479	0.750	0.135	0.017	0.34	-0.043	0.009
4.00	-0.0500	0.019932	0.000732	0.001799	0.00081	-5.492	0.744	3.156	0.330	0.050	0.61	-0.113	0.039
8.00	-0.1098	0.019986	-0.000744	0.002628	0.00093	-12.465	1.052	5.469	0.498	0.072	0.86	-0.186	0.055
12.00	-0.1688	0.019690	-0.002507	0.003740	0.00122	-19.542	1.359	7.672	0.647	0.089	1.12	-0.232	0.072
16.00	-0.2259	0.020180	-0.004858	0.005327	0.00184	-26.655	1.735	9.761	0.775	0.096	1.43	-0.248	0.087
20.00	-0.2862	0.020389	-0.006467	0.007468	0.00387	-32.691	2.064	12.308	0.972	0.107	1.97	-0.228	0.127
$\frac{C'_L}{\sigma} = 0.03$													
-4.00	0.0779	.029986	0.005420	-0.000300	0.00101	9.322	0.730	-1.061	0.061	-0.001	0.46	0.014	-0.003
-0.	0.0172	0.030453	0.003212	0.000615	0.00083	2.321	1.015	1.245	0.235	0.027	0.70	-0.063	0.017
4.00	-0.0434	0.030055	0.000932	0.001730	0.00083	-4.636	1.285	3.622	0.422	0.057	0.95	-0.138	0.040
8.00	-0.1034	0.030023	-0.001378	0.002978	0.00099	-11.593	1.594	5.950	0.594	0.083	1.21	-0.208	0.059
12.00	-0.1623	0.029729	-0.003963	0.004485	0.00139	-18.628	1.902	8.180	0.744	0.099	1.49	-0.241	0.082
16.00	-0.2192	0.030182	-0.007166	0.006549	0.00250	-25.671	2.281	10.312	0.874	0.104	1.84	-0.239	0.103
20.00	-0.2737	0.030145	-0.011129	0.009397	0.00541	-32.832	2.666	12.267	0.966	0.095	2.29	-0.168	0.129

TABLE 2. - Continued

CALCULATED CHARACTERISTICS OF A ROTOR HAVING RECTANGULAR BLADES WITH A LINEAR TWIST OF -4°

(o) $\frac{V}{\Omega R} = 0.50$; $M_{(1.0,90°)} = 0.8$ - Continued

$\theta_{.75R}$, deg	λ	$\frac{C'_L}{\sigma}$	$\frac{C'_D}{\sigma}$	$\frac{C_Q}{\sigma}$	$\frac{bC_{Q,D}}{\sigma}$	α_c, deg	a_0, deg	a_1, deg	a_2, deg	a_3, deg	b_1, deg	b_2, deg	b_3, deg
$\frac{C'_L}{\sigma} = 0.04$													
-4.00	0.0849	0.040077	0.007859	-0.001352	0.00113	10.259	1.278	-0.517	0.168	0.011	0.82	-0.009	0.086
-0.	0.0236	0.040043	0.004705	-0.000035	0.00088	3.174	1.523	1.740	0.334	0.038	1.05	-0.081	0.026
4.00	-0.0368	0.039982	0.001702	0.001402	0.00089	-3.764	1.803	4.125	0.527	0.069	1.33	-0.142	0.056
8.00	-0.0970	0.040015	-0.001513	0.003107	0.00112	-10.727	2.124	6.431	0.690	0.093	1.57	-0.221	0.067
12.00	-0.1558	0.039681	-0.004890	0.005030	0.00180	-17.714	2.432	8.698	0.846	0.109	1.88	-0.241	0.095
16.00	-0.2122	0.039988	-0.008882	0.007676	0.00437	-24.653	2.800	10.921	0.990	0.114	2.33	-0.201	0.129
20.00	-0.2652	0.039866	-0.013414	0.011150	0.01008	-31.559	3.149	13.108	1.112	0.100	3.02	-0.052	0.178
$\frac{C'_L}{\sigma} = 0.05$													
-4.00	0.0922	0.050179	0.010826	-0.002601	0.00130	11.234	1.844	0.042	0.282	0.026	1.18	-0.040	0.012
-0.	0.0308	0.050110	0.006778	-0.000909	0.00102	4.111	2.068	2.307	0.452	0.052	1.42	-0.105	0.035
4.00	-0.0300	0.050306	0.002993	0.000869	0.00101	-2.867	2.367	4.626	0.627	0.079	1.69	-0.176	0.054
8.00	-0.0904	0.049994	-0.001136	0.003025	0.00136	-9.853	2.653	6.924	0.791	0.104	1.95	-0.229	0.077
12.00	-0.1486	0.050122	-0.005350	0.005551	0.00318	-16.707	2.986	9.298	0.970	0.123	2.35	-0.226	0.114
16.00	-0.2035	0.049881	-0.009783	0.008830	0.00970	-23.422	3.277	11.755	1.156	0.125	3.07	-0.082	0.185
20.00	-0.2533	0.049751	-0.014162	0.013015	0.01868	-29.811	3.551	14.344	1.300	0.075	4.27	0.194	0.262
$\frac{C'_L}{\sigma} = 0.06$													
-4.00	0.1001	.060376	0.014413	-0.004045	0.00159	12.287	2.422	0.713	0.410	0.042	1.57	-0.071	0.022
-0.	0.0385	0.060175	0.00910	-0.001982	0.00131	5.122	2.625	2.965	0.593	0.071	1.82	-0.133	0.044
4.00	-0.0226	0.060324	0.004772	0.000187	0.00127	-1.901	2.902	5.253	0.769	0.099	2.10	-0.191	0.065
8.00	-0.0835	0.059798	-0.000252	0.002811	0.00201	-8.934	3.155	7.490	0.916	0.119	2.39	-0.208	0.100
12.00	-0.1395	0.059697	-0.004941	0.006142	0.00947	-15.513	3.423	10.173	1.173	0.144	3.11	-0.088	0.181
16.00	-0.1897	0.059577	-0.008961	0.01000	0.02060	-21.596	3.640	13.118	1.393	0.093	4.48	0.216	0.292
20.00	-0.2366	0.059616	-0.013019	0.015298	0.03063	-27.516	3.903	15.913	1.483	-0.018	6.04	0.483	0.331
$\frac{C'_L}{\sigma} = 0.064$													
-4.00	0.1031	0.064079	0.015882	-0.004612	0.00178	12.687	2.632	0.977	0.443	0.049	1.72	-0.079	0.027
-0.	0.0420	0.064191	0.01030	-0.002447	0.00186	5.565	2.848	3.283	0.666	0.083	2.00	-0.142	0.053
4.00	-0.0191	0.063952	0.005583	-0.000050	0.00239	-1.466	3.100	5.566	0.850	0.114	2.28	-0.190	0.072
8.00	-0.0798	0.063867	0.000324	0.002833	0.00438	-8.456	3.362	7.855	1.013	0.137	2.65	-0.184	0.113
12.00	-0.1328	0.063632	-0.004008	0.006657	0.01561	-14.669	3.555	10.881	1.326	0.141	3.80	0.073	0.246

TABLE 2. - Continued

CALCULATED CHARACTERISTICS OF A ROTOR HAVING RECTANGULAR BLADES WITH A LINEAR TWIST OF -4°

(o) $\frac{V}{\Omega R}$ = 0.50; $M_{(1.0,90°)}$ = 0.8 - Concluded

$\theta_{.75R}$, deg	λ	$\frac{C'_L}{\sigma}$	$\frac{C'_D}{\sigma}$	$\frac{C_Q}{\sigma}$	$\frac{bC_{Q,D}}{\sigma}$	α_c, deg	a_0, deg	a_1, deg	a_2, deg	a_3, deg	b_1, deg	b_2, deg	b_3, deg
$\frac{C'_L}{\sigma}$ = 0.068													
-4.00	0.1067	0.068110	0.017572	-0.005222	0.00226	13.154	2.864	1.297	0.528	0.058	1.88	-0.093	0.033
-0.	0.0458	0.068179	0.01150	-0.002884	0.00289	6.053	3.069	3.665	0.758	0.099	2.20	-0.148	0.061
4.00	-0.0141	0.067748	0.006644	-0.000045	0.00642	-0.846	3.287	6.189	1.022	0.147	2.64	-0.157	0.089
8.00	-0.0699	0.067565	0.001968	0.003478	0.01506	-7.264	3.459	9.072	1.321	0.158	3.59	0.037	0.222
12.00	-0.1228	0.067730	-0.00260	0.007599	0.02416	-13.444	3.696	11.884	1.496	0.095	4.76	0.252	0.309
$\frac{C'_L}{\sigma}$ = 0.07													
-4.00	0.1085	0.070132	0.018471	-0.005534	0.00255	13.399	2.981	1.449	0.564	0.064	1.97	-0.098	0.036
-0.	0.0481	0.070308	0.01230	-0.00330	0.00387	6.353	3.190	3.914	0.819	0.110	2.32	-0.154	0.064
4.00	-0.0104	0.069758	0.007391	0.000076	0.00973	-0.390	3.374	6.636	1.133	0.159	2.93	-0.103	0.135
8.00	-0.0647	0.069674	0.002897	0.003899	0.01961	-6.641	3.557	9.617	1.416	0.139	4.00	0.096	0.255
12.00	-0.1185	0.069605	-0.001614	0.008023	0.02697	-12.922	3.777	12.290	1.546	0.088	5.11	0.290	0.326
$\frac{C'_L}{\sigma}$ = 0.08													
-4.00	0.1202	0.080403	0.023569	-0.006824	0.00646	14.868	3.579	2.660	0.824	0.107	2.54	-0.113	0.064
-0.	0.0630	0.079662	0.017079	-0.003096	0.01355	8.182	3.692	5.557	1.177	0.148	3.23	-0.065	0.155
4.00	0.0086	0.079680	0.011744	0.001069	0.02308	1.899	3.859	8.569	1.443	0.116	4.23	0.070	0.274
8.00	-0.0448	0.079732	0.006963	0.005465	0.03137	-4.240	4.072	11.472	1.604	0.045	5.32	0.204	0.356

TABLE 2. - Continued

CALCULATED CHARACTERISTICS OF A ROTOR HAVING RECTANGULAR BLADES WITH A LINEAR TWIST OF -4°

(p) $\frac{V}{\Omega R} = 0.50$; $M_{(1.0, 90°)} = 0.9$

$\theta_{.75R}$, deg	λ	$\frac{C'_L}{\sigma}$	$\frac{C'_D}{\sigma}$	$\frac{C_Q}{\sigma}$	$\frac{bC_{Q,D}}{\sigma}$	α_c, deg	a_0, deg	a_1, deg	a_2, deg	a_3, deg	b_1, deg	b_2, deg	b_3, deg
$\frac{C'_L}{\sigma} = 0$													
-4.00	0.0582	0.000242	0.002203	0.002663	0.00086	6.699	-0.811	-2.571	-0.256	-0.041	-0.61	0.088	-0.037
-0.	-0.0024	-0.000125	0.002412	0.002383	0.00080	-0.274	-0.535	-0.196	-0.062	-0.007	-0.35	0.000	-0.011
4.00	-0.0633	-0.000380	0.002772	0.002164	0.00082	-7.279	-0.271	2.140	0.123	0.028	-0.09	-0.085	0.016
8.00	-0.1231	0.000004	0.002875	0.002225	0.00094	-14.268	0.039	4.469	0.309	0.057	0.20	-0.162	0.040
12.00	-0.1824	-0.000429	0.002881	0.002501	0.00116	-21.458	0.318	6.631	0.468	0.080	0.46	-0.220	0.060
16.00	-0.2399	0.000064	0.002303	0.003273	0.00161	-28.735	0.663	8.653	0.603	0.091	0.75	-0.259	0.073
20.00	-0.2957	0.000179	0.001353	0.004476	0.00243	-36.332	1.020	10.347	0.682	0.088	1.00	-0.261	0.078
$\frac{C'_L}{\sigma} = 0.01$													
-4.00	0.0646	0.010278	0.003125	0.002197	0.00088	7.597	-0.279	-2.070	-0.184	-0.029	-0.25	0.063	-0.009
-0.	0.0037	0.009852	0.002474	0.002347	0.00080	0.540	-0.015	0.266	0.031	0.004	0.00	-0.019	-0.003
4.00	-0.0570	0.009911	0.001995	0.002618	0.00081	-6.398	0.269	2.650	0.225	0.039	0.28	-0.106	0.024
8.00	-0.1168	0.010003	0.001271	0.003021	0.00092	-13.405	0.576	4.965	0.407	0.069	0.56	-0.182	0.048
12.00	-0.1760	0.009685	0.000385	0.003735	0.00122	-20.543	0.872	7.130	0.585	0.090	0.82	-0.240	0.068
16.00	-0.2333	0.010135	-0.001090	0.004972	0.00186	-27.743	1.235	9.204	0.699	0.100	1.13	-0.267	0.085
20.00	-0.2889	0.010207	-0.003137	0.006785	0.00310	-35.212	1.610	10.958	0.778	0.095	1.42	-0.254	0.093
$\frac{C'_L}{\sigma} = 0.02$													
-4.00	0.0708	0.019942	0.004496	0.001560	0.00092	8.379	0.238	-1.586	-0.055	-0.018	0.11	0.046	-0.000
-0.	0.0099	0.019928	0.003034	0.002089	0.00081	1.367	0.512	0.738	0.128	0.015	0.36	-0.039	0.005
4.00	-0.0506	0.019731	0.001646	0.002758	0.00081	-5.589	0.783	3.125	0.323	0.050	0.64	-0.118	0.036
8.00	-0.1105	0.020021	0.000178	0.003600	0.00095	-12.549	1.111	5.461	0.507	0.080	0.92	-0.203	0.056
12.00	-0.1697	0.019698	-0.001582	0.004759	0.00138	-19.647	1.418	7.660	0.662	0.101	1.19	-0.255	0.078
16.00	-0.2268	0.020162	-0.003906	0.006474	0.00236	-26.768	1.790	9.754	0.796	0.109	1.53	-0.265	0.100
20.00	-0.2818	0.020148	-0.006919	0.008892	0.00443	-34.086	2.162	11.598	0.877	0.098	1.91	-0.216	0.121
$\frac{C'_L}{\sigma} = 0.03$													
-4.00	0.0774	0.029954	0.006368	0.000699	0.00100	9.262	0.778	-1.061	0.051	-0.006	0.47	0.021	-0.001
-0.	0.0164	0.030163	0.004097	0.001608	0.00083	2.223	1.053	1.233	0.228	0.027	0.72	-0.062	0.012
4.00	-0.0443	0.029881	0.001839	0.002719	0.00083	-4.743	1.332	3.613	0.423	0.062	1.00	-0.148	0.039
8.00	-0.1043	0.030030	-0.000466	0.003997	0.00106	-11.705	1.654	5.944	0.604	0.093	1.27	-0.228	0.061
12.00	-0.1634	0.029676	-0.003033	0.005590	0.00172	-18.753	1.957	8.173	0.762	0.111	1.58	-0.261	0.090
16.00	-0.2201	0.030125	-0.006180	0.007845	0.00353	-25.786	2.328	10.320	0.898	0.116	1.98	-0.246	0.121
20.00	-0.2743	0.030105	-0.010039	0.010937	0.00695	-32.916	2.700	12.297	0.989	0.101	2.47	-0.180	0.152

TABLE 2. - Continued

CALCULATED CHARACTERISTICS OF A ROTOR HAVING RECTANGULAR BLADES WITH A LINEAR TWIST OF -4°

(p) $\frac{V}{\Omega R} = 0.50$; $M_{(1.0,90°)} = 0.9$ - Continued

$\theta_{.75R}$, deg	λ	$\frac{C'_L}{\sigma}$	$\frac{C'_D}{\sigma}$	$\frac{C_Q}{\sigma}$	$\frac{bC_{Q,D}}{\sigma}$	α_c, deg	a_0, deg	a_1, deg	a_2, deg	a_3, deg	b_1, deg	b_2, deg	b_3, deg
$\frac{C'_L}{\sigma} = 0.04$													
-4.00	0.0841	0.040013	0.008762	-0.000367	0.00110	10.167	1.326	-0.522	0.158	0.007	0.84	-0.005	-0.082
-0.	0.0228	0.040021	0.005598	0.000953	0.00088	3.070	1.578	1.740	0.332	0.039	1.08	-0.085	0.021
4.00	-0.0380	0.039933	0.002567	0.002438	0.00091	-3.897	1.870	4.106	0.523	0.073	1.36	-0.170	0.046
8.00	-0.0981	0.040004	-0.000617	0.004186	0.00129	-10.860	2.185	6.431	0.703	0.104	1.64	-0.241	0.070
12.00	-0.1569	0.039574	-0.003949	0.006250	0.00245	-17.848	2.481	8.706	0.867	0.121	2.00	-0.252	0.188
16.00	-0.2130	0.039909	-0.007852	0.009154	0.00574	-24.757	2.839	10.947	1.013	0.122	2.51	-0.196	0.152
20.00	-0.2657	0.039848	-0.012239	0.012883	0.01135	-31.631	3.178	13.132	1.126	0.101	3.21	-0.046	0.200
$\frac{C'_L}{\sigma} = 0.05$													
-4.00	0.0912	0.050087	0.011684	-0.001627	0.00126	11.115	1.891	0.057	0.276	0.024	1.21	-0.037	0.087
-0.	0.0296	0.050073	0.007630	0.000086	0.00100	3.971	2.122	2.296	0.448	0.054	1.44	-0.111	0.031
4.00	-0.0313	0.050227	0.003835	0.001931	0.00108	-3.020	2.424	4.623	0.633	0.086	1.74	-0.192	0.094
8.00	-0.0917	0.049901	-0.000250	0.004178	0.00175	-9.999	2.698	6.942	0.808	0.115	2.05	-0.235	0.089
12.00	-0.1495	0.050039	-0.004392	0.006950	0.00433	-16.823	3.022	9.339	0.995	0.131	2.53	-0.215	0.137
16.00	-0.2041	0.049853	-0.008668	0.010541	0.01106	-23.504	3.313	11.793	1.174	0.126	3.28	-0.072	0.207
20.00	-0.2538	0.049770	-0.012846	0.014972	0.02012	-29.880	3.580	14.358	1.307	0.073	4.45	0.187	0.277
$\frac{C'_L}{\sigma} = 0.06$													
-4.00	0.0989	0.060380	0.015237	-0.003076	0.00156	12.149	2.477	0.713	0.406	0.042	1.61	-0.073	0.016
-0.	0.0372	0.060212	0.010280	-0.000984	0.00130	4.963	2.682	2.959	0.594	0.076	1.88	-0.138	0.045
4.00	-0.0242	0.060096	0.005584	0.001292	0.00151	-2.084	2.947	5.250	0.777	0.108	2.18	-0.196	0.072
8.00	-0.0847	0.059760	0.000632	0.004122	0.00304	-9.069	3.207	7.533	0.939	0.130	2.53	-0.209	0.114
12.00	-0.1402	0.059679	-0.003888	0.007786	0.01099	-15.600	3.465	10.229	1.192	0.145	3.32	-0.076	0.202
16.00	-0.1905	0.059631	-0.007704	0.012293	0.02202	-21.684	3.685	13.137	1.397	0.090	4.65	0.208	0.304
20.00	-0.2376	0.059896	-0.011691	0.017503	0.03153	-27.635	3.966	15.897	1.462	-0.015	6.11	0.444	0.354
$\frac{C'_L}{\sigma} = 0.064$													
-4.00	0.1019	0.064082	0.016683	-0.003630	0.00178	12.541	2.687	0.982	0.462	0.051	1.76	-0.003	0.029
-0.	0.0406	0.064439	0.011544	-0.001434	0.00191	5.414	2.926	3.284	0.668	0.089	2.05	-0.161	0.044
4.00	-0.0203	0.064245	0.006508	0.001107	0.00293	-1.596	3.170	5.642	0.880	0.127	2.42	-0.195	0.080
8.00	-0.0808	0.063862	0.001250	0.004243	0.00569	-8.568	3.411	7.923	1.040	0.146	2.83	-0.172	0.134
12.00	-0.1336	0.063674	-0.00300	0.008427	0.01726	-14.761	3.605	10.913	1.333	0.137	3.99	0.076	0.241

TABLE 2. - Continued

CALCULATED CHARACTERISTICS OF A ROTOR HAVING RECTANGULAR BLADES WITH A LINEAR TWIST OF -4°

$(p)\ \frac{V}{\Omega R} = 0.50;\ M_{(1.0,90°)} = 0.9$ - Concluded

$\theta_{.75R}$, deg	λ	$\frac{C'_L}{\sigma}$	$\frac{C'_D}{\sigma}$	$\frac{C_Q}{\sigma}$	$\frac{bC_{Q,D}}{\sigma}$	α_c, deg	a_0, deg	a_1, deg	a_2, deg	a_3, deg	b_1, deg	b_2, deg	b_3, deg
$\frac{C'_L}{\sigma} = 0.068$													
-4.00	0.1054	0.068129	0.018357	-0.004225	0.00232	13.009	2.921	1.314	0.531	0.062	1.93	-0.097	0.029
-0.	0.0443	0.068141	0.012808	-0.001799	0.00303	5.882	3.124	3.671	0.764	0.106	2.27	-0.156	0.060
4.00	-0.0153	0.067590	0.007501	0.001237	0.00709	-0.987	3.319	6.228	1.039	0.154	2.80	-0.133	0.121
8.00	-0.0709	0.067562	0.002992	0.005105	0.01626	-7.384	3.511	9.082	1.323	0.155	3.77	0.042	0.234
12.00	-0.1239	0.067752	-0.00130	0.009491	0.02522	-13.576	3.751	11.880	1.494	0.093	4.91	0.240	0.316
$\frac{C'_L}{\sigma} = 0.07$													
-4.00	0.1073	0.070166	0.019252	-0.004526	0.00267	13.258	3.038	1.497	0.571	0.069	2.03	-0.103	0.093
-0.	0.0470	0.070443	0.013628	-0.001934	0.00431	6.219	3.253	3.964	0.838	0.119	2.43	-0.159	0.067
4.00	-0.0115	0.069541	0.008269	0.001465	0.01048	-0.521	3.403	6.673	1.146	0.162	3.11	-0.078	0.156
8.00	-0.0656	0.069689	0.00470	0.005624	0.02093	-6.751	3.610	9.638	1.419	0.135	4.19	0.099	0.265
12.00	-0.1196	0.069624	-0.000357	0.009975	0.02814	-13.050	3.833	12.300	1.546	0.066	5.26	0.278	0.333
$\frac{C'_L}{\sigma} = 0.08$													
-4.00	0.1198	0.080173	0.023851	-0.005182	0.00797	14.356	3.583	2.881	0.897	0.123	2.74	-0.108	0.082
-0.	0.0626	0.079696	0.018029	-0.001564	0.01515	8.135	3.748	5.666	1.193	0.146	3.42	-0.056	0.170
4.00	0.0075	0.079512	0.012755	0.002836	0.02432	1.777	3.913	8.602	1.442	0.114	4.39	0.057	0.278
8.00	-0.0458	0.079752	0.008236	0.007492	0.03271	-4.346	4.135	11.526	1.602	0.045	5.48	0.185	0.361

TABLE 2. - Continued

CALCULATED CHARACTERISTICS OF A ROTOR HAVING RECTANGULAR BLADES WITH A LINEAR TWIST OF -4°

(q) $\frac{V}{\Omega R} = 0.55$; $M_{(1.0,90°)} = 0.8$

$\theta_{.75R}$, deg	λ	$\frac{C'_L}{\sigma}$	$\frac{C'_D}{\sigma}$	$\frac{C_Q}{\sigma}$	$\frac{bC_{Q,D}}{\sigma}$	α_c, deg	a_0, deg	a_1, deg	a_2, deg	a_3, deg	b_1, deg	b_2, deg	b_3, deg
$\frac{C'_L}{\sigma} = 0$													
-4.00	0.0596	-0.000057	0.001357	0.001693	0.00083	6.225	-0.916	-2.825	-0.298	-0.043	-0.72	0.087	-0.034
-0.	-0.0027	0.000015	0.001613	0.001456	0.00077	-0.277	-0.608	-0.216	-0.065	-0.004	-0.42	-0.012	-0.008
4.00	-0.0659	-0.000340	0.002060	0.001268	0.00080	-6.886	-0.365	2.282	0.138	0.032	-0.16	-0.093	0.023
8.00	-0.1278	0.000019	0.002326	0.001339	0.00090	-13.452	-0.061	4.803	0.351	0.065	0.15	-0.173	0.050
12.00	-0.1891	-0.000363	0.002519	0.001593	0.00110	-20.176	0.206	7.179	0.537	0.089	0.44	-0.233	0.072
16.00	-0.2485	0.000294	0.002181	0.002290	0.00146	-26.922	0.545	9.452	0.703	0.103	0.77	-0.271	0.089
20.00	-0.3067	-0.000466	0.001824	0.003147	0.00207	-34.033	0.824	11.370	0.805	0.100	1.05	-0.269	0.098
$\frac{C'_L}{\sigma} = 0.01$													
-4.00	0.0662	0.009943	0.002167	0.001285	0.00085	7.009	-0.390	-2.280	-0.179	-0.030	-0.33	0.066	-0.024
-0.	0.0036	0.010045	0.001665	0.001433	0.00077	0.469	-0.095	0.280	0.042	0.009	-0.04	-0.031	0.001
4.00	-0.0593	0.009761	0.001322	0.001660	0.00079	-6.104	0.164	2.819	0.256	0.045	0.23	-0.115	0.032
8.00	-0.1213	0.010048	0.000913	0.002060	0.00089	-12.659	0.467	5.344	0.466	0.078	0.54	-0.194	0.059
12.00	-0.1826	0.009760	0.000305	0.002711	0.00115	-19.347	0.752	7.730	0.649	0.101	0.83	-0.250	0.082
16.00	-0.2420	0.010384	-0.000797	0.003795	0.00162	-26.046	1.105	10.024	0.812	0.113	1.18	-0.282	0.101
20.00	-0.2999	0.009623	-0.002135	0.005182	0.00259	-33.066	1.403	11.993	0.912	0.108	1.49	-0.265	0.115
$\frac{C'_L}{\sigma} = 0.02$													
-4.00	0.0728	0.019967	0.003435	0.000658	0.00091	7.808	0.138	-1.718	-0.056	-0.016	0.07	0.041	-0.014
-0.	0.0100	0.020224	0.002211	0.001166	0.00079	1.231	0.427	0.790	0.152	0.021	0.34	-0.050	0.011
4.00	-0.0528	0.019755	0.001085	0.001796	0.00079	-5.323	0.691	3.368	0.381	0.063	0.63	-0.134	0.046
8.00	-0.1149	0.020071	-0.000047	0.002566	0.00093	-11.879	0.993	5.872	0.579	0.091	0.93	-0.213	0.069
12.00	-0.1761	0.019796	-0.001380	0.003585	0.00125	-18.529	1.291	8.277	0.762	0.114	1.23	-0.265	0.093
16.00	-0.2354	0.020399	-0.003231	0.005082	0.00207	-25.183	1.650	10.595	0.924	0.124	1.60	-0.281	0.116
20.00	-0.2929	0.019606	-0.005481	0.007063	0.00398	-32.092	1.959	12.641	1.027	0.115	2.00	-0.234	0.139
$\frac{C'_L}{\sigma} = 0.03$													
-4.00	0.0796	0.030011	0.005174	-0.000181	0.00099	8.621	0.679	-1.141	0.071	0.000	0.45	0.010	-0.006
-0.	0.0163	0.030012	0.003182	0.000692	0.00082	1.980	0.930	1.303	0.264	0.033	0.72	-0.068	0.022
4.00	-0.0462	0.029828	0.001360	0.001674	0.00083	-4.541	1.216	3.910	0.500	0.075	1.02	-0.153	0.057
8.00	-0.1086	0.030059	-0.000537	0.002847	0.00101	-11.106	1.517	6.392	0.692	0.103	1.32	-0.231	0.079
12.00	-0.1697	0.029827	-0.002591	0.004251	0.00151	-17.718	1.825	8.823	0.876	0.125	1.64	-0.275	0.106
16.00	-0.2287	0.030300	-0.005147	0.006237	0.00310	-24.308	2.178	11.193	1.043	0.134	2.08	-0.261	0.139
20.00	-0.2850	0.030242	-0.008229	0.008962	0.00801	-30.932	2.510	13.458	1.175	0.121	2.70	-0.144	0.186

TABLE 2. - Continued

CALCULATED CHARACTERISTICS OF A ROTOR HAVING RECTANGULAR BLADES WITH A LINEAR TWIST OF -4°

(g) $\frac{V}{\Omega R}$ = 0.55; $M_{(1.0,90°)}$ = 0.8 - Continued

$\theta_{.75R}$, deg	λ	$\frac{C'_L}{\sigma}$	$\frac{C'_D}{\sigma}$	$\frac{C_Q}{\sigma}$	$\frac{bC_{Q,D}}{\sigma}$	α_c, deg	a_0, deg	a_1, deg	a_2, deg	a_3, deg	b_1, deg	b_2, deg	b_3, deg
$\frac{C'_L}{\sigma} = 0.04$													
-4.00	0.0866	0.040112	0.007416	-0.001237	0.00113	9.455	1.221	-0.549	0.198	0.016	0.85	-0.017	0.005
-0.	0.0230	0.040051	0.004629	-0.000000	0.00090	2.778	1.454	1.873	0.390	0.049	1.11	-0.092	0.034
4.00	-0.0397	0.039930	0.002173	0.001283	0.00091	-3.758	1.746	4.450	0.620	0.089	1.42	-0.173	0.066
8.00	-0.1022	0.040036	-0.000555	0.002901	0.00119	-10.335	2.041	6.913	0.805	0.116	1.71	-0.246	0.089
12.00	-0.1632	0.039675	-0.003342	0.004761	0.00211	-16.907	2.341	9.380	0.996	0.138	2.08	-0.267	0.125
16.00	-0.2214	0.039737	-0.006468	0.007320	0.00693	-23.381	2.654	11.872	1.183	0.144	2.68	-0.183	0.184
20.00	-0.2757	0.040011	-0.00990	0.010694	0.01438	-29.685	2.958	14.391	1.333	0.109	3.66	0.036	0.259
$\frac{C'_L}{\sigma} = 0.05$													
-4.00	0.0939	0.050280	0.010162	-0.002483	0.00134	10.336	1.772	0.104	0.338	0.034	1.26	-0.051	0.016
-0.	0.0302	0.050118	0.006567	-0.000890	0.00108	3.624	1.987	2.513	0.535	0.067	1.52	-0.120	0.047
4.00	-0.0327	0.050312	0.003437	0.000705	0.00108	-2.932	2.300	5.029	0.749	0.103	1.83	-0.205	0.069
8.00	-0.0957	0.049947	-0.000095	0.002755	0.00156	-9.549	2.559	7.460	0.928	0.131	2.13	-0.248	0.105
12.00	-0.1555	0.049879	-0.003523	0.005288	0.00567	-15.949	2.848	10.109	1.164	0.157	2.69	-0.201	0.169
16.00	-0.2113	0.049779	-0.006833	0.008587	0.01479	-22.108	3.096	12.873	1.380	0.137	3.70	0.019	0.271
$\frac{C'_L}{\sigma} = 0.06$													
-4.00	0.1015	0.060087	0.013322	-0.003847	0.00173	11.237	2.306	0.810	0.491	0.055	1.67	-0.080	0.031
-0.	0.0384	0.060467	0.009133	-0.001973	0.00188	4.582	2.554	3.305	0.722	0.096	1.97	-0.164	0.056
4.00	-0.0244	0.059832	0.005130	0.000174	0.00368	-1.977	2.793	5.908	0.986	0.147	2.36	-0.206	0.093
8.00	-0.0862	0.059617	0.001071	0.002853	0.00804	-8.457	3.007	8.476	1.208	0.177	2.91	-0.130	0.175
12.00	-0.1424	0.059544	-0.002263	0.006304	0.01804	-14.441	3.221	11.450	1.462	0.150	4.02	0.100	0.300
16.00	-0.1953	0.059747	-0.005380	0.010434	0.02720	-20.226	3.477	14.350	1.600	0.056	5.39	0.344	0.371
$\frac{C'_L}{\sigma} = 0.064$													
-4.00	0.1049	0.064151	0.014800	-0.004444	0.00211	11.642	2.530	1.141	0.565	0.067	1.86	-0.091	0.040
-0.	0.0422	0.064462	0.010306	-0.002373	0.00307	5.022	2.766	3.725	0.830	0.116	2.20	-0.170	0.068
4.00	-0.0191	0.063796	0.006079	0.000215	0.00813	-1.385	2.973	6.543	1.156	0.173	2.77	-0.147	0.139
8.00	-0.0775	0.063721	0.002389	0.003424	0.01699	-7.505	3.169	9.475	1.437	0.169	3.70	0.020	0.259
12.00	-0.1341	0.063776	-0.001064	0.007084	0.02454	-13.514	3.392	12.250	1.594	0.104	4.82	0.236	0.350

TABLE 2.- Continued

CALCULATED CHARACTERISTICS OF A ROTOR HAVING RECTANGULAR BLADES WITH A LINEAR TWIST OF -4°

(q) $\frac{V}{\Omega R} = 0.55$; $M_{(1.0,90°)} = 0.8$ - Concluded

$\theta_{.75R}$, deg	λ	$\frac{C'_L}{\sigma}$	$\frac{C'_D}{\sigma}$	$\frac{C_Q}{\sigma}$	$\frac{bC_{Q,D}}{\sigma}$	α_c, deg	a_0, deg	a_1, deg	a_2, deg	a_3, deg	b_1, deg	b_2, deg	b_3, deg
$\frac{C'_L}{\sigma} = 0.068$													
-4.00	0.1086	0.069216	0.016375	-0.005025	0.00281	12.078	2.754	1.521	0.652	0.081	2.05	-0.101	0.049
-0.	0.0468	0.064374	0.011579	-0.002634	0.00552	5.546	2.966	4.267	0.971	0.140	2.49	-0.153	0.095
4.00	-0.0129	0.067619	0.007255	0.000380	0.01319	-0.708	3.134	7.236	1.309	0.175	3.26	-0.056	0.205
8.00	-0.0698	0.067739	0.003694	0.003967	0.02256	-6.660	3.347	10.249	1.558	0.132	4.34	0.115	0.317
12.00	-0.1268	0.067541	0.000028	0.007810	0.02947	-12.698	3.566	12.935	1.674	0.056	5.42	0.293	0.379
$\frac{C'_L}{\sigma} = 0.07$													
-4.00	0.1106	0.070259	0.017204	-0.005297	0.00334	12.312	2.965	1.735	0.701	0.089	2.16	-0.106	0.056
-0.	0.0489	0.070061	0.012251	-0.002797	0.00629	5.894	3.075	4.405	0.991	0.141	2.56	-0.148	0.097
4.00	-0.0098	0.069551	0.007894	0.000506	0.01536	-0.361	3.226	7.567	1.369	0.169	3.50	-0.021	0.233
8.00	-0.0662	0.069753	0.004361	0.004237	0.02484	-6.257	3.447	10.600	1.602	0.113	4.61	0.144	0.339
12.00	-0.1231	0.069419	0.000626	0.008176	0.03185	-12.279	3.668	13.281	1.708	0.035	5.70	0.310	0.394

TABLE 2. - Continued

CALCULATED CHARACTERISTICS OF A ROTOR HAVING RECTANGULAR BLADES WITH A LINEAR TWIST OF -4°

(r) $\frac{V}{\Omega R} = 0.55$; $M_{(1.0, 90°)} = 0.9$

$\theta_{.75R}$, deg	λ	$\frac{C'_L}{\sigma}$	$\frac{C'_D}{\sigma}$	$\frac{C_Q}{\sigma}$	$\frac{bC_{Q,D}}{\sigma}$	α_c, deg	a_0, deg	a_1, deg	a_2, deg	a_3, deg	b_1, deg	b_2, deg	b_3, deg
$\frac{C'_L}{\sigma} = 0$													
-4.00	0.0597	-0.000075	0.002446	0.002811	0.00083	6.238	-0.869	-2.822	-0.314	-0.053	-0.72	0.106	-0.044
-0.	-0.0027	-0.000105	0.002661	0.002500	0.00077	-0.286	-0.566	-0.224	-0.076	-0.008	-0.40	-0.001	-0.014
4.00	-0.0660	-0.000418	0.003088	0.002261	0.00080	-6.906	-0.318	2.267	0.134	0.033	-0.12	-0.092	0.020
8.00	-0.1280	0.000092	0.003319	0.002316	0.00090	-13.476	-0.004	4.788	0.355	0.071	0.21	-0.184	0.050
12.00	-0.1894	-0.000227	0.003487	0.002570	0.00112	-20.210	0.271	7.162	0.548	0.100	0.51	-0.254	0.075
16.00	-0.2490	0.000343	0.003180	0.003299	0.00156	-26.983	0.608	9.424	0.719	0.117	0.85	-0.298	0.095
20.00	-0.3072	-0.000460	0.002831	0.004219	0.00243	-34.106	0.883	11.346	0.825	0.115	1.15	-0.292	0.110
$\frac{C'_L}{\sigma} = 0.01$													
-4.00	0.0661	0.009916	0.003238	0.002384	0.00085	7.000	-0.341	-2.278	-0.193	-0.038	-0.32	0.000	-0.034
-0.	0.0033	0.009883	0.002698	0.002478	0.00077	0.436	-0.053	0.272	0.033	0.005	-0.02	-0.023	-0.004
4.00	-0.0597	0.009682	0.002345	0.002671	0.00079	-6.146	0.220	2.805	0.253	0.049	0.21	-0.125	0.026
8.00	-0.1217	0.010103	0.001916	0.003069	0.00090	-12.707	0.526	5.330	0.472	0.086	0.60	-0.208	0.060
12.00	-0.1831	0.009874	0.001294	0.003744	0.00120	-19.406	0.817	7.712	0.662	0.113	0.91	-0.273	0.086
16.00	-0.2426	0.010401	0.000233	0.004899	0.00187	-26.125	1.164	10.000	0.830	0.128	1.27	-0.306	0.110
20.00	-0.3005	0.009612	-0.001073	0.006401	0.00342	-33.142	1.454	11.978	0.934	0.120	1.63	-0.278	0.131
$\frac{C'_L}{\sigma} = 0.02$													
-4.00	0.0725	0.019925	0.004482	0.001745	0.00090	7.774	0.189	-1.718	-0.061	-0.023	0.00	0.052	-0.024
-0.	0.0095	0.020052	0.003220	0.002216	0.00079	1.176	0.471	0.783	0.145	0.019	0.37	-0.046	0.005
4.00	-0.0537	0.019879	0.002136	0.002861	0.00079	-5.397	0.731	3.343	0.372	0.062	0.66	-0.146	0.038
8.00	-0.1156	0.020086	0.000960	0.003611	0.00094	-11.952	1.052	5.858	0.586	0.100	1.00	-0.230	0.070
12.00	-0.1769	0.019834	-0.000369	0.004682	0.00139	-18.613	1.353	8.259	0.776	0.127	1.32	-0.287	0.098
16.00	-0.2362	0.020393	-0.002177	0.006311	0.00273	-25.271	1.706	10.580	0.943	0.137	1.73	-0.298	0.129
20.00	-0.2935	0.019567	-0.004354	0.008459	0.00526	-32.168	2.001	12.635	1.048	0.125	2.16	-0.236	0.160
$\frac{C'_L}{\sigma} = 0.03$													
-4.00	0.0791	0.029957	0.006195	0.000891	0.00098	8.562	0.721	-1.147	0.057	-0.007	0.46	0.025	-0.012
-0.	0.0159	0.030393	0.004226	0.001718	0.00082	1.944	1.009	1.323	0.264	0.034	0.77	-0.073	0.016
4.00	-0.0471	0.029834	0.002344	0.002742	0.00083	-4.627	1.264	3.890	0.495	0.077	1.08	-0.165	0.051
8.00	-0.1094	0.030070	0.000464	0.003939	0.00107	-11.200	1.579	6.382	0.700	0.114	1.39	-0.250	0.080
12.00	-0.1706	0.029799	-0.001563	0.005432	0.00184	-17.818	1.882	8.813	0.892	0.138	1.74	-0.292	0.114
16.00	-0.2295	0.030254	-0.004055	0.007622	0.00435	-24.396	2.224	11.190	1.063	0.144	2.24	-0.265	0.157
20.00	-0.2865	0.030244	-0.007024	0.010585	0.00910	-31.001	2.548	13.447	1.190	0.125	2.89	-0.141	0.207

TABLE 2. - Continued

CALCULATED CHARACTERISTICS OF A ROTOR HAVING RECTANGULAR BLADES WITH A LINEAR TWIST OF -4°

(r) $\frac{V}{\Omega R} = 0.55$; $M_{(1.0,90°)} = 0.9$ - Continued

$\theta_{.75R}$, deg	λ	$\frac{C'_L}{\sigma}$	$\frac{C'_D}{\sigma}$	$\frac{C_Q}{\sigma}$	$\frac{bC_{Q,D}}{\sigma}$	α_c, deg	a_0, deg	a_1, deg	a_2, deg	a_3, deg	b_1, deg	b_2, deg	b_3, deg
$\frac{C'_L}{\sigma} = 0.04$													
-4.00	0.0858	0.039991	0.008395	-0.000173	0.00111	9.371	1.261	-0.554	0.188	0.013	0.88	-0.009	-0.001
-0.	0.0221	0.040021	0.005607	0.001060	0.00089	2.686	1.510	1.867	0.385	0.049	1.15	-0.096	0.028
4.00	-0.8407	0.039961	0.003127	0.002391	0.00093	-3.867	1.812	4.426	0.615	0.092	1.47	-0.196	0.057
8.00	-0.1032	0.040025	0.000440	0.004051	0.00135	-10.447	2.102	6.910	0.816	0.127	1.80	-0.263	0.093
12.00	-0.1641	0.039575	-0.002305	0.006070	0.00300	-17.014	2.390	9.383	1.014	0.150	2.21	-0.274	0.139
16.00	-0.2221	0.039642	-0.005310	0.008888	0.00809	-23.466	2.691	11.875	1.199	0.149	2.87	-0.178	0.206
20.00	-0.2762	0.040020	-0.008503	0.012530	0.01575	-29.754	2.992	14.370	1.340	0.109	3.85	0.036	0.276
$\frac{C'_L}{\sigma} = 0.05$													
-4.00	0.0929	0.050184	0.011112	-0.001434	0.00129	10.229	1.828	0.093	0.329	0.032	1.29	-0.047	0.009
-0.	0.0290	0.050086	0.007523	0.000175	0.00106	3.504	2.044	2.498	0.529	0.070	1.57	-0.125	0.043
4.00	-0.0339	0.050265	0.004395	0.001833	0.00116	-3.065	2.359	5.021	0.752	0.111	1.90	-0.221	0.067
8.00	-0.0968	0.049878	0.000890	0.004001	0.00202	-9.670	2.614	7.469	0.943	0.142	2.24	-0.258	0.114
12.00	-0.1564	0.049707	-0.002442	0.006799	0.00695	-16.053	2.888	10.122	1.180	0.163	2.86	-0.196	0.188
16.00	-0.2121	0.049674	-0.005558	0.010383	0.01612	-22.199	3.133	12.861	1.385	0.136	3.89	0.022	0.288
$\frac{C'_L}{\sigma} = 0.06$													
-4.00	0.1004	0.060096	0.014265	-0.002800	0.00168	11.118	2.363	0.803	0.486	0.056	1.72	-0.080	0.026
-0.	0.0367	0.060099	0.009981	-0.000860	0.00178	4.407	2.589	3.260	0.713	0.101	2.03	-0.163	0.056
4.00	-0.0256	0.059940	0.006071	0.001366	0.00380	-2.111	2.858	5.874	0.979	0.152	2.45	-0.213	0.095
8.00	-0.0874	0.059670	0.002094	0.004294	0.00823	-8.586	3.069	8.452	1.204	0.179	3.05	-0.135	0.185
12.00	-0.1435	0.059622	-0.001053	0.008081	0.01898	-14.558	3.283	11.418	1.457	0.149	4.18	0.091	0.308
16.00	-0.1966	0.059767	-0.003993	0.012464	0.02784	-20.370	3.533	14.304	1.595	0.057	5.51	0.327	0.377
$\frac{C'_L}{\sigma} = 0.064$													
-4.00	0.1038	0.064185	0.015732	-0.003385	0.00213	11.522	2.589	1.145	0.563	0.069	1.91	-0.092	0.035
-0.	0.0407	0.064182	0.011167	-0.001231	0.00305	4.858	2.802	3.700	0.828	0.122	2.27	-0.164	0.073
4.00	-0.0204	0.063582	0.007055	0.001545	0.00853	-1.523	3.007	61531	1.158	0.177	2.91	-0.131	0.154
8.00	-0.0786	0.063577	0.003544	0.005062	0.01798	-7.626	3.204	9.448	1.431	0.167	3.88	0.039	0.274
12.00	-0.1353	0.063786	0.000248	0.008992	0.02540	-13.647	3.451	12.209	1.587	0.105	4.97	0.228	0.355

TABLE 2. - Continued

CALCULATED CHARACTERISTICS OF A ROTOR HAVING RECTANGULAR BLADES WITH A LINEAR TWIST OF -4°

(r) $\frac{V}{\Omega R} = 0.55$; $M_{(1.0, 90°)} = 0.9$ - Concluded

$\theta_{.75R}$, deg	λ	$\frac{C'_L}{\sigma}$	$\frac{C'_D}{\sigma}$	$\frac{C_Q}{\sigma}$	$\frac{bC_{Q,D}}{\sigma}$	α_c, deg	a_0, deg	a_1, deg	a_2, deg	a_3, deg	b_1, deg	b_2, deg	b_3, deg
$\frac{C'_L}{\sigma} = 0.068$													
-4.00	0.1076	0.068290	0.017309	-0.003940	0.00293	11.967	2.814	1.544	0.657	0.086	2.12	-0.102	0.047
-0.	0.0458	0.068486	0.012527	-0.001400	0.00601	5.435	3.031	4.292	0.980	0.148	2.61	-0.156	0.097
4.00	-0.0138	0.067744	0.008343	0.001921	0.01425	-0.794	3.207	7.257	1.314	0.176	3.43	-0.060	0.209
8.00	-0.0708	0.067755	0.004969	0.005790	0.02364	-6.762	3.406	10.245	1.557	0.130	4.52	0.115	0.323
12.00	-0.1280	0.067576	0.001446	0.009841	0.03040	-12.827	3.628	12.918	1.672	0.057	5.58	0.285	0.384
$\frac{C'_L}{\sigma} = 0.07$													
-4.00	0.1093	0.070113	0.018012	-0.004152	0.00345	12.167	2.920	1.730	0.700	0.094	2.21	-0.116	0.047
-0.	0.0483	0.070209	0.013190	-0.001413	0.00773	5.721	3.113	4.591	1.053	0.157	2.79	-0.129	0.123
4.00	-0.0103	0.069791	0.009066	0.002136	0.01684	-0.416	3.302	7.616	1.377	0.167	3.69	-0.022	0.239
8.08	-0.0672	0.069743	0.005661	0.006118	0.02589	-6.366	3.507	10.595	1.600	0.111	4.79	0.140	0.343
12.00	-0.1243	0.069642	0.002077	0.010272	0.03272	-12.413	3.731	13.273	1.706	0.035	5.85	0.300	0.398

TABLE 2. - Continued

CALCULATED CHARACTERISTICS OF A ROTOR HAVING RECTANGULAR BLADES WITH A LINEAR TWIST OF -4°

(s) $\frac{V}{\Omega R} = 0.60$; $M_{(1.0,90^\circ)} = 0.8$

$\theta_{.75R}$, deg	λ	$\frac{C'_L}{\sigma}$	$\frac{C'_D}{\sigma}$	$\frac{C_Q}{\sigma}$	$\frac{bC_{Q,D}}{\sigma}$	α_c, deg	a_0, deg	a_1, deg	a_2, deg	a_3, deg	b_1, deg	b_2, deg	b_3, deg
$\frac{C'_L}{\sigma} = 0$													
-4.00	0.0615	-0.000061	0.001573	0.001752	0.00081	5.881	-0.966	-3.067	-0.360	-0.055	-0.82	0.105	-0.042
-0.	-0.0030	0.000051	0.001802	0.001512	0.00075	-0.282	-0.643	-0.241	-0.079	-0.005	-0.48	-0.015	-0.012
4.00	-0.0685	0.000025	0.002292	0.001322	0.00078	-6.557	-0.384	2.426	0.157	0.040	-0.18	-0.109	0.025
8.00	-0.1330	0.000054	0.002761	0.001333	0.00087	-12.827	-0.107	5.105	0.400	0.080	0.16	-0.195	0.061
12.00	-0.1966	-0.000212	0.003141	0.001556	0.00107	-19.196	0.159	7.673	0.621	0.111	0.49	-0.261	0.091
16.00	-0.2587	0.000355	0.003184	0.002150	0.00145	-25.555	0.475	10.164	0.821	0.129	0.86	-0.309	0.113
20.00	-0.3185	0.000025	0.002970	0.002981	0.00221	-32.211	0.759	12.357	0.963	0.129	1.22	-0.303	0.131
$\frac{C'_L}{\sigma} = 0.01$													
-4.00	0.0680	0.009943	0.002254	0.001391	0.00082	6.592	-0.435	-2.468	-0.216	-0.036	-0.40	0.073	-0.031
-0.	0.0032	0.010102	0.001830	0.001501	0.00075	0.383	-0.136	0.285	0.043	0.010	-0.08	-0.036	0.000
4.00	-0.0623	0.009572	0.001662	0.001678	0.00077	-5.890	0.106	2.983	0.289	0.056	0.22	-0.130	0.039
8.00	-0.1266	0.010119	0.001491	0.002020	0.00087	-12.117	0.415	5.684	0.532	0.096	0.57	-0.220	0.073
12.00	-0.1902	0.009895	0.001192	0.002604	0.00115	-18.457	0.698	8.251	0.751	0.126	0.91	-0.281	0.103
16.00	-0.2524	0.010331	0.000604	0.003548	0.00171	-24.793	1.016	10.758	0.946	0.142	1.30	-0.317	0.128
20.00	-0.3118	0.010052	-0.000450	0.004916	0.00307	-31.361	1.317	13.003	1.087	0.138	1.72	-0.286	0.154
$\frac{C'_L}{\sigma} = 0.02$													
-4.00	0.0746	0.019997	0.003411	0.000780	0.00088	7.311	0.091	-1.859	-0.072	-0.018	0.02	0.043	-0.019
-0.	0.0094	0.020331	0.002336	0.001232	0.00077	1.065	0.380	0.829	0.170	0.025	0.34	-0.058	0.012
4.00	-0.0558	0.019713	0.001460	0.001798	0.00078	-5.183	0.631	3.569	0.428	0.072	0.65	-0.158	0.050
8.00	-0.1203	0.020144	0.000660	0.002480	0.00093	-11.420	0.934	6.247	0.662	0.111	0.99	-0.241	0.085
12.00	-0.1838	0.019965	-0.000268	0.003405	0.00129	-17.726	1.228	8.846	0.881	0.140	1.34	-0.299	0.116
16.00	-0.2459	0.020337	-0.001521	0.004777	0.00228	-24.025	1.549	11.366	1.075	0.153	1.77	-0.312	0.148
20.00	-0.3043	0.019589	-0.003350	0.006690	0.00568	-30.621	1.837	13.584	1.197	0.141	2.27	-0.242	0.184
$\frac{C'_L}{\sigma} = 0.03$													
-4.00	0.0814	0.030078	0.005018	-0.000057	0.00097	8.044	0.620	-1.236	0.074	0.000	0.45	0.012	-0.007
-0.	0.0156	0.030009	0.003232	0.000756	0.00081	1.725	0.866	1.373	0.297	0.041	0.74	-0.077	0.028
4.00	-0.0493	0.029812	0.001783	0.001625	0.00083	-4.474	1.158	4.160	0.568	0.089	1.07	-0.185	0.061
8.00	-0.1141	0.030131	0.000281	0.002700	0.00105	-10.730	1.451	6.802	0.791	0.126	1.41	-0.261	0.097
12.00	-0.1775	0.029888	-0.001273	0.004002	0.00167	-17.005	1.747	9.423	1.012	0.155	1.79	-0.303	0.134
20.00	-0.2949	0.030233	-0.005330	0.008523	0.01148	-29.390	2.331	14.573	1.378	0.136	3.14	-0.088	0.200

TABLE 2. - Continued

CALCULATED CHARACTERISTICS OF A ROTOR HAVING RECTANGULAR BLADES WITH A LINEAR TWIST OF -4°

(s) $\frac{V}{\Omega R} = 0.60$; $M_{(1.0,90°)} = 0.8$ - Continued

$\theta_{.75R}$, deg	λ	$\frac{C'_L}{\sigma}$	$\frac{C'_D}{\sigma}$	$\frac{C_Q}{\sigma}$	$\frac{bC_{Q,D}}{\sigma}$	α_c, deg	a_0, deg	a_1, deg	a_2, deg	a_3, deg	b_1, deg	b_2, deg	b_3, deg
$\frac{C'_L}{\sigma} = 0.04$													
-4.00	0.0883	0.040223	0.007081	-0.001099	0.00114	8.803	1.154	-0.575	0.227	0.020	0.88	-0.022	0.086
-0.	0.0222	0.040087	0.004588	0.000054	0.00091	2.446	1.380	1.996	0.446	0.060	1.17	-0.102	0.044
4.00	-0.0428	0.039795	0.002609	0.001175	0.00094	-3.774	1.680	4.744	0.710	0.108	1.50	-0.209	0.073
8.00	-0.1078	0.040064	0.000353	0.002689	0.00128	-10.038	1.967	7.361	0.923	0.142	1.84	-0.274	0.111
12.00	-0.1706	0.040232	-0.001821	0.004533	0.00340	-16.204	2.275	10.090	1.168	0.172	2.33	-0.282	0.164
16.00	-0.2306	0.039860	-0.004096	0.007058	0.01069	-22.284	2.513	12.833	1.389	0.167	3.14	-0.126	0.258
$\frac{C'_L}{\sigma} = 0.045$													
-4.00	0.0920	0.045421	0.00820	-0.001706	0.00125	9.203	1.430	-0.218	0.311	0.032	1.10	-0.042	0.013
-0.	0.0258	0.045110	0.00530	-0.000368	0.00102	2.823	1.639	2.341	0.529	0.072	1.39	-0.118	0.053
4.00	-0.0394	0.044886	0.003157	0.000907	0.00104	-3.409	1.955	5.055	0.786	0.119	1.71	-0.234	0.071
8.00	-0.1046	0.044967	0.000563	0.002610	0.00149	-9.685	2.218	7.657	0.995	0.152	2.07	-0.275	0.122
12.00	-0.1669	0.044724	-0.001865	0.004790	0.00618	-15.798	2.483	10.466	1.262	0.182	2.67	-0.227	0.198
16.00	-0.2254	0.044700	-0.004181	0.007700	0.01528	-21.705	2.716	13.335	1.486	0.155	3.70	-0.005	0.310
$\frac{C'_L}{\sigma} = 0.05$													
-4.00	0.0955	0.050043	0.009533	-0.002282	0.00140	9.568	1.671	0.125	0.391	0.043	1.31	-0.055	0.024
-0.	0.0295	0.050312	0.006416	-0.000837	0.00119	3.224	1.921	2.711	0.620	0.086	1.61	-0.146	0.054
4.00	-0.0358	0.049617	0.003796	0.000606	0.00122	-3.026	2.187	5.439	0.891	0.137	1.97	-0.227	0.090
8.00	-0.1012	0.049681	0.000869	0.002538	0.00188	-9.318	2.454	7.991	1.082	0.165	2.32	-0.261	0.138
12.00	-0.1617	0.049782	-0.001640	0.005192	0.01069	-15.235	2.699	11.008	1.393	0.188	3.19	-0.118	0.293
$\frac{C'_L}{\sigma} = 0.055$													
-4.00	0.0993	0.055099	0.010975	-0.002955	0.00157	9.981	1.938	0.511	0.483	0.057	1.54	-0.070	0.033
-0.	0.0333	0.055078	0.007461	-0.001313	0.00156	3.625	2.165	3.121	0.725	0.103	1.85	-0.159	0.067
4.00	-0.0311	0.054650	0.004578	0.000391	0.00362	-2.541	2.429	5.988	1.049	0.167	2.31	-0.210	0.116
8.00	-0.0953	0.054615	0.001497	0.002736	0.00826	-8.711	2.657	8.696	1.289	0.198	2.88	-0.152	0.202
12.00	-0.1545	0.054680	-0.000937	0.005786	0.01810	-14.492	2.878	11.724	1.544	0.168	3.96	0.065	0.332

TABLE 2. - Continued

CALCULATED CHARACTERISTICS OF A ROTOR HAVING RECTANGULAR BLADES WITH A LINEAR TWIST OF -4°

(s) $\frac{V}{\Omega R} = 0.60$; $M_{(1.0,90°)} = 0.8$ - Concluded

$\theta_{.75R}$, deg	λ	$\frac{C'_L}{\sigma}$	$\frac{C'_D}{\sigma}$	$\frac{C_Q}{\sigma}$	$\frac{bC_{Q,D}}{\sigma}$	α_c, deg	a_0, deg	a_1, deg	a_2, deg	a_3, deg	b_1, deg	b_2, deg	b_3, deg
$\frac{C'_L}{\sigma} = 0.06$													
-4.00	0.1033	0.060173	0.012553	-0.003651	0.00199	10.419	2.206	0.939	0.585	0.072	1.78	-0.087	0.045
-0.	0.0378	0.060146	0.008706	-0.001801	0.00280	4.100	2.423	3.643	0.864	0.127	2.13	-0.169	0.084
4.00	-0.0255	0.059544	0.005512	0.000374	0.00819	-1.959	2.650	6.864	1.228	0.190	2.76	-0.151	0.170
8.00	-0.0867	0.059575	0.002675	0.003233	0.01722	-7.838	2.852	9.676	1.511	0.182	3.69	0.006	0.296
$\frac{C'_L}{\sigma} = 0.07$													
-4.00	0.1122	0.070121	0.015960	-0.004895	0.00421	11.368	2.739	1.923	0.821	0.112	2.30	-0.118	0.073
-0.	0.0489	0.070063	0.011661	-0.002460	0.00887	5.330	2.952	4.843	1.147	0.165	2.82	-0.137	0.146
4.00	-0.0119	0.069746	0.008128	0.000742	0.01912	-0.578	3.139	8.101	1.506	0.170	3.82	-0.015	0.291

TABLE 2. - Continued

CALCULATED CHARACTERISTICS OF A ROTOR HAVING RECTANGULAR BLADES WITH A LINEAR TWIST OF -4°

(t) $\frac{V}{\Omega R} = 0.60$; $M_{(1.0,90°)} = 0.9$

$\theta_{.75R}$, deg	λ	$\frac{C'_L}{\sigma}$	$\frac{C'_D}{\sigma}$	$\frac{C_Q}{\sigma}$	$\frac{bC_{Q,D}}{\sigma}$	α_c, deg	a_0, deg	a_1, deg	a_2, deg	a_3, deg	b_1, deg	b_2, deg	b_3, deg
$\frac{C'_L}{\sigma} = 0$													
-4.00	0.0616	-0.000094	0.002742	0.002944	0.00081	5.895	-0.920	-3.044	-0.368	-0.064	-0.80	0.135	-0.043
-0.	-0.0031	-0.000079	0.002927	0.002623	0.00075	-0.294	-0.598	-0.251	-0.090	-0.010	-0.45	-0.004	-0.018
4.00	-0.0686	0.000047	0.003390	0.002393	0.00078	-6.570	-0.330	2.414	0.153	0.040	-0.13	-0.108	0.022
8.00	-0.1332	0.000175	0.003833	0.002393	0.00087	-12.844	-0.049	5.090	0.402	0.086	0.22	-0.206	0.060
12.00	-0.1968	0.000013	0.004183	0.002628	0.00109	-19.217	0.230	7.656	0.631	0.123	0.57	-0.282	0.093
16.00	-0.2592	0.000327	0.004324	0.003255	0.00157	-25.609	0.533	10.123	0.834	0.144	0.95	-0.335	0.119
20.00	-0.3189	0.000042	0.004095	0.004159	0.00280	-32.263	0.816	12.322	0.983	0.145	1.35	-0.324	0.145
$\frac{C'_L}{\sigma} = 0.01$													
-4.00	0.0680	0.009911	0.003413	0.002567	0.00082	6.586	-0.397	-2.448	-0.224	-0.045	-0.37	0.105	-0.031
-0.	0.0028	0.009932	0.002940	0.002616	0.00075	0.351	-0.091	0.275	0.033	0.006	-0.05	-0.028	-0.006
4.00	-0.0627	0.009529	0.002764	0.002762	0.00077	-5.925	0.158	2.969	0.285	0.058	0.27	-0.133	0.035
8.00	-0.1270	0.010212	0.002579	0.003112	0.00088	-12.156	0.478	5.668	0.536	0.104	0.64	-0.233	0.072
12.00	-0.1907	0.010083	0.002265	0.003729	0.00120	-18.501	0.766	8.242	0.782	0.139	1.00	-0.304	0.106
16.00	-0.2530	0.010319	0.001765	0.004757	0.00211	-24.858	1.073	10.724	0.961	0.157	1.41	-0.339	0.137
20.00	-0.3123	0.010017	0.000742	0.006245	0.00416	-31.419	1.365	12.973	1.105	0.151	1.87	-0.297	0.172
$\frac{C'_L}{\sigma} = 0.02$													
-4.00	0.0744	0.020039	0.004552	0.001935	0.00088	7.286	0.146	-1.849	-0.083	-0.026	0.04	0.059	-0.027
-0.	0.0089	0.020159	0.003426	0.002355	0.00077	1.013	0.427	0.819	0.161	0.023	0.37	-0.054	0.006
4.00	-0.0564	0.019660	0.002557	0.002908	0.00078	-5.238	0.686	3.535	0.425	0.076	0.70	-0.163	0.047
8.00	-0.1210	0.020214	0.001758	0.003609	0.00095	-11.479	0.998	6.231	0.668	0.121	1.07	-0.257	0.084
12.00	-0.1845	0.020075	0.000836	0.004595	0.00147	-17.790	1.295	8.827	0.894	0.154	1.44	-0.320	0.121
16.00	-0.2465	0.020334	-0.000337	0.006124	0.00323	-24.093	1.602	11.343	1.091	0.167	1.91	-0.325	0.162
20.00	-0.3047	0.019603	-0.002161	0.008168	0.00666	-30.677	1.884	13.599	1.213	0.150	2.48	-0.240	0.200
$\frac{C'_L}{\sigma} = 0.03$													
-4.00	0.0809	0.030107	0.006140	0.001085	0.00096	7.998	0.676	-1.230	0.063	-0.006	0.48	0.024	-0.024
-0.	0.0149	0.029986	0.004319	0.001884	0.00080	1.665	0.924	1.370	0.291	0.040	0.78	-0.077	0.021
4.00	-0.0500	0.029792	0.002866	0.002771	0.00083	-4.549	1.224	4.144	0.587	0.095	1.13	-0.201	0.054
8.00	-0.1149	0.030175	0.00145	0.003877	0.00112	-10.808	1.516	6.788	0.798	0.137	1.49	-0.279	0.097
12.00	-0.1783	0.029901	-0.000146	0.005286	0.00224	-17.084	1.806	9.410	1.026	0.168	1.91	-0.317	0.143
16.00	-0.2394	0.030131	-0.001962	0.007428	0.00601	-23.302	2.105	12.004	1.232	0.174	2.51	-0.265	0.205
20.00	-0.2967	0.030500	-0.004138	0.010326	0.01279	-29.484	2.402	14.506	1.382	0.140	3.35	-0.099	0.270

TABLE 2. - Continued

CALCULATED CHARACTERISTICS OF A ROTOR HAVING RECTANGULAR BLADES WITH A LINEAR TWIST OF -4°

(t) $\frac{V}{\Omega R} = 0.60$; $M_{(1.0,90°)} = 0.9$ - Continued

$\theta_{.75R}$, deg	λ	$\frac{C'_L}{\sigma}$	$\frac{C'_D}{\sigma}$	$\frac{C_Q}{\sigma}$	$\frac{bC_{Q,D}}{\sigma}$	α_c, deg	a_0, deg	a_1, deg	a_2, deg	a_3, deg	b_1, deg	b_2, deg	b_3, deg
$\frac{C'_L}{\sigma} = 0.04$													
-4.00	0.0877	0.040266	0.008184	0.000029	0.00111	8.737	1.213	-0.574	0.218	0.016	0.91	-0.015	-0.001
-0.	0.0214	0.040024	0.005654	0.001195	0.00090	2.362	1.438	1.984	0.438	0.061	1.21	-0.106	0.037
4.00	-0.0437	0.039940	0.003713	0.002357	0.00097	-3.857	1.750	4.743	0.712	0.115	1.57	-0.225	0.068
8.00	-0.1088	0.040047	0.001452	0.003930	0.00150	-10.133	2.028	7.353	0.932	0.154	1.93	-0.290	0.115
12.00	-0.1715	0.040091	-0.000654	0.005981	0.00439	-16.293	2.321	10.083	1.180	0.182	2.48	-0.285	0.178
16.00	-0.2312	0.039823	-0.002779	0.008778	0.01211	-22.355	2.557	12.811	1.396	0.169	3.33	-0.125	0.275
$\frac{C'_L}{\sigma} = 0.045$													
-4.00	0.0912	0.045476	0.00930	-0.000589	0.00121	9.126	1.490	-0.223	0.301	0.029	1.14	-0.036	0.009
-0.	0.0248	0.045055	0.006495	0.000776	0.00100	2.728	1.697	2.322	0.521	0.073	1.44	-0.122	0.047
4.00	-0.0402	0.045239	0.004291	0.002070	0.00111	-3.482	2.027	5.076	0.796	0.127	1.81	-0.237	0.076
8.00	-0.1056	0.044940	0.001659	0.003901	0.00191	-9.784	2.278	7.652	1.004	0.163	2.17	-0.287	0.127
12.00	-0.1677	0.044685	-0.000670	0.006326	0.00722	-15.881	2.533	10.462	1.271	0.189	2.83	-0.226	0.214
16.00	-0.2264	0.044560	-0.002854	0.009505	0.01614	-21.826	2.771	13.258	1.478	0.156	3.83	-0.028	0.312
$\frac{C'_L}{\sigma} = 0.05$													
-4.00	0.0945	0.050028	0.010605	-0.001158	0.00135	9.476	1.728	0.109	0.380	0.041	1.35	-0.058	0.015
-0.	0.0284	0.050274	0.007477	0.000305	0.00116	3.117	1.981	2.687	0.612	0.088	1.66	-0.152	0.049
4.00	-0.0367	0.050042	0.004926	0.001797	0.00135	-3.110	2.275	5.435	0.891	0.144	2.06	-0.245	0.085
8.00	-0.1022	0.049661	0.001979	0.003889	0.00265	-9.418	2.512	7.989	1.091	0.175	2.45	-0.267	0.147
12.00	-0.1626	0.049859	-0.000396	0.006855	0.01187	-15.325	2.770	10.982	1.394	0.192	3.34	-0.131	0.260
$\frac{C'_L}{\sigma} = 0.055$													
-4.00	0.0982	0.055078	0.012039	-0.001836	0.00151	9.878	1.997	0.489	0.470	0.055	1.58	-0.068	0.025
-0.	0.0321	0.055078	0.008527	-0.000167	0.00147	3.508	2.227	3.090	0.716	0.106	1.90	-0.166	0.061
4.00	-0.0322	0.054871	0.005695	0.001660	0.00376	-2.646	2.511	5.963	1.045	0.175	2.40	-0.227	0.112
8.00	-0.0966	0.054664	0.002633	0.004201	0.00852	-8.832	2.722	8.639	1.276	0.201	2.99	-0.163	0.207
12.00	-0.1557	0.054786	0.000362	0.007581	0.01872	-14.613	2.958	11.659	1.534	0.172	4.09	0.030	0.331

TABLE 2. - Continued

CALCULATED CHARACTERISTICS OF A ROTOR HAVING RECTANGULAR BLADES WITH A LINEAR TWIST OF -4°

(t) $\frac{V}{\Omega R} = 0.60$; $M_{(1.0,90°)} = 0.9$ - Concluded

$\theta_{.75R}$, deg	λ	$\frac{C'_L}{\sigma}$	$\frac{C'_D}{\sigma}$	$\frac{C_Q}{\sigma}$	$\frac{bC_{Q,D}}{\sigma}$	α_c, deg	a_0, deg	a_1, deg	a_2, deg	a_3, deg	b_1, deg	b_2, deg	b_3, deg
$\frac{C'_L}{\sigma} = 0.06$													
-4.00	0.1022	0.060181	0.013607	-0.002522	0.00192	10.312	2.266	0.921	0.576	0.073	1.83	-0.086	0.038
-0.	0.0366	0.060226	0.009793	-0.000637	0.00277	3.984	2.487	3.614	0.858	0.133	2.21	-0.169	0.083
4.00	-0.0265	0.059597	0.006669	0.001775	0.00858	-2.055	2.711	6.652	1.228	0.195	2.90	-0.147	0.176
8.00	-0.0878	0.059564	0.003944	0.004919	0.01804	-7.950	2.910	9.621	1.501	0.184	3.85	0.008	0.301
$\frac{C'_L}{\sigma} = 0.07$													
-4.00	0.1112	0.070153	0.016993	-0.003680	0.00440	11.270	2.880	1.938	0.823	0.118	2.38	-0.188	0.070
-0.	0.0485	0.070494	0.012844	-0.000967	0.01021	5.205	3.009	4.992	1.192	0.174	3.06	-0.117	0.172
4.00	-0.0127	0.069689	0.009414	0.002480	0.02037	-0.458	3.198	8.110	1.505	0.168	4.00	-0.011	0.296

TABLE 2. - Continued

CALCULATED CHARACTERISTICS OF A ROTOR HAVING RECTANGULAR BLADES WITH A LINEAR TWIST OF -4°

(u) $\frac{V}{\Omega R} = 0.70$; $M_{(1.0, 90°)} = 0.8$

$\theta_{.75R}$, deg	λ	$\frac{C'_L}{\sigma}$	$\frac{C'_D}{\sigma}$	$\frac{C_Q}{\sigma}$	$\frac{bC_{Q,D}}{\sigma}$	α_c, deg	a_0, deg	a_1, deg	a_2, deg	a_3, deg	b_1, deg	b_2, deg	b_3, deg
$\frac{C'_L}{\sigma} = 0$													
-4.00	0.0655	0.000201	0.002088	0.001833	0.00078	5.374	-1.049	-3.567	-0.505	-0.083	-1.06	0.137	-0.064
-0.	-0.0035	0.000073	0.002217	0.001630	0.00071	-0.286	-0.716	-0.283	-0.105	-0.007	-0.60	-0.026	-0.021
4.00	-0.0744	0.000033	0.002904	0.001393	0.00074	-6.102	-0.457	2.674	0.195	0.057	-0.25	-0.143	0.028
8.00	-0.1443	0.000017	0.003799	0.001271	0.00081	-11.916	-0.203	5.645	0.499	0.114	0.15	-0.239	0.084
12.00	-0.2127	-0.000141	0.004716	0.001366	0.00103	-17.768	0.059	8.579	0.799	0.162	0.57	-0.323	0.131
16.00	-0.2802	0.000460	0.005527	0.001727	0.00146	-23.606	0.340	11.426	1.066	0.190	1.04	-0.373	0.171
20.00	-0.3453	0.000357	0.006184	0.002375	0.00309	-29.571	0.590	14.076	1.279	0.194	1.54	-0.362	0.207
$\frac{C'_L}{\sigma} = 0.01$													
-4.00	0.0719	0.010280	0.002549	0.001592	0.00077	5.959	-0.535	-2.883	-0.321	-0.058	-0.58	0.099	-0.046
-0.	0.0023	0.010154	0.002199	0.001644	0.00071	0.246	-0.224	0.285	0.043	0.013	-0.16	-0.050	-0.004
4.00	-0.0681	0.010030	0.002355	0.001730	0.00073	-5.525	0.046	3.345	0.375	0.082	0.23	-0.177	0.046
8.00	-0.1382	0.010092	0.002753	0.001882	0.00084	-11.343	0.384	6.281	0.663	0.136	0.62	-0.269	0.102
12.00	-0.2065	0.010040	0.003181	0.002262	0.00115	-17.168	0.582	9.227	0.963	0.183	1.06	-0.344	0.150
16.00	-0.2743	0.009999	0.003583	0.002923	0.00195	-23.020	0.840	12.040	1.214	0.206	1.53	-0.376	0.193
20.00	-0.3384	0.010456	0.003534	0.004237	0.00671	-28.860	1.107	14.800	1.436	0.198	2.22	-0.294	0.256
$\frac{C'_L}{\sigma} = 0.02$													
-4.00	0.0784	0.020435	0.003496	0.001046	0.00082	6.559	-0.016	-2.174	-0.132	-0.031	-0.09	0.058	-0.029
-0.	0.0080	0.019986	0.002593	0.001402	0.00074	0.769	0.250	0.850	0.190	0.033	0.29	-0.069	0.016
4.00	-0.0618	0.020012	0.002284	0.001757	0.00076	-4.947	0.553	4.020	0.557	0.107	0.71	-0.214	0.063
8.00	-0.1322	0.020143	0.002118	0.002243	0.00094	-10.778	0.809	6.904	0.826	0.157	1.09	-0.294	0.119
12.00	-0.2004	0.020016	0.002084	0.002917	0.00144	-16.579	1.090	9.867	1.125	0.202	1.55	-0.357	0.172
16.00	-0.2675	0.020098	0.001917	0.004133	0.00511	-22.357	1.345	12.752	1.386	0.218	2.15	-0.330	0.238
20.00	-0.3303	0.019710	0.001513	0.005906	0.01192	-28.189	1.567	15.488	1.573	0.184	2.98	-0.173	0.315
$\frac{C'_L}{\sigma} = 0.03$													
-4.00	0.0848	0.030016	0.00475	0.000297	0.00092	7.136	0.468	-1.476	0.055	-0.004	0.38	0.024	-0.007
-0.	0.0140	0.030020	0.003383	0.000922	0.00080	1.319	0.793	1.470	0.355	0.056	0.75	-0.090	0.040
4.00	-0.0554	0.030011	0.002739	0.001434	0.00086	-4.364	1.064	4.703	0.743	0.133	1.19	-0.248	0.081
8.00	-0.1261	0.030087	0.001889	0.002352	0.00113	-10.218	1.311	7.520	0.988	0.179	1.56	-0.316	0.138
12.00	-0.1943	0.029666	0.001393	0.003470	0.00309	-15.994	1.580	10.498	1.287	0.219	2.07	-0.354	0.196
16.00	-0.2595	0.029623	0.000856	0.005329	0.01155	-21.636	1.795	13.535	1.565	0.215	2.94	-0.208	0.310

TABLE 2. - Continued

CALCULATED CHARACTERISTICS OF A ROTOR HAVING RECTANGULAR BLADES WITH A LINEAR TWIST OF -4°

(u) $\frac{V}{\Omega R} = 0.70$; $M_{(1.0,90°)} = 0.8$ - Continued

$\theta_{.75R}$, deg	λ	$\frac{C'_L}{\sigma}$	$\frac{C'_D}{\sigma}$	$\frac{C_Q}{\sigma}$	$\frac{bC_{Q,D}}{\sigma}$	α_c, deg	a_0, deg	a_1, deg	a_2, deg	a_3, deg	b_1, deg	b_2, deg	b_3, deg
$\frac{C'_L}{\sigma} = 0.04$													
-4.00	0.0915	0.040061	0.006544	-0.000686	0.00112	7.753	0.976	-0.716	0.258	0.026	0.87	-0.015	0.016
-0.	0.0205	0.040225	0.004540	0.000252	0.00098	1.911	1.243	2.180	0.545	0.086	1.22	-0.133	0.058
4.00	-0.0488	0.039939	0.003510	0.000975	0.00116	-3.767	1.563	5.430	0.951	0.169	1.71	-0.271	0.102
8.00	-0.1200	0.039629	0.002057	0.002277	0.00155	-9.648	1.783	8.178	1.169	0.205	2.07	-0.313	0.170
12.00	-0.1860	0.039640	0.001300	0.004163	0.01104	-15.190	2.001	11.451	1.534	0.232	2.98	-0.184	0.307
16.00	-0.2489	0.039879	0.000721	0.006735	0.02037	-20.603	2.213	14.584	1.764	0.164	4.22	0.072	0.434
$\frac{C'_L}{\sigma} = 0.045$													
-4.00	0.0950	0.045068	0.007547	-0.001227	0.00129	8.075	1.229	-0.302	0.368	0.043	1.12	-0.029	0.027
-0.	0.0237	0.045053	0.005225	-0.000125	0.00115	2.208	1.476	2.559	0.649	0.103	1.47	-0.146	0.074
4.00	-0.0451	0.044679	0.003992	0.000762	0.00268	-3.432	1.775	5.898	1.093	0.195	2.03	-0.248	0.136
8.00	-0.1153	0.044720	0.002362	0.002408	0.00654	-9.226	2.005	8.759	1.345	0.233	2.54	-0.241	0.225
12.00	-0.1803	0.044838	0.001580	0.004693	0.01706	-14.675	2.226	12.023	1.661	0.216	3.61	-0.052	0.373
16.00	-0.2432	0.044510	0.000939	0.007486	0.02469	-20.078	2.396	15.057	1.829	0.120	4.90	0.215	0.481
$\frac{C'_L}{\sigma} = 0.05$													
-4.00	0.0986	0.050145	0.008669	-0.001815	0.00150	8.405	1.484	0.120	0.482	0.062	1.38	-0.057	0.042
-0.	0.0274	0.050086	0.006030	-0.000536	0.00154	2.538	1.720	3.004	0.772	0.124	1.73	-0.165	0.089
4.00	-0.0407	0.049806	0.004574	0.000657	0.00597	-3.044	2.024	6.423	1.238	0.216	2.39	-0.232	0.171
8.00	-0.1095	0.049535	0.002956	0.002631	0.01327	-8.713	2.202	9.452	1.527	0.232	3.13	-0.128	0.301
12.00	-0.1742	0.049849	0.002079	0.005248	0.02182	-14.126	2.434	12.600	1.771	0.179	4.29	0.085	0.432
$\frac{C'_L}{\sigma} = 0.055$													
-4.00	0.1023	0.055251	0.009867	-0.002412	0.00184	8.743	1.756	0.551	0.591	0.079	1.63	-0.095	0.047
-0.	0.0313	0.055177	0.006958	-0.000981	0.00250	2.886	1.966	3.474	0.901	0.145	2.02	-0.175	0.112
4.00	-0.0361	0.054576	0.005268	0.000592	0.00984	-2.640	2.228	6.959	1.371	0.223	2.80	-0.171	0.231
8.00	-0.1027	0.054537	0.003807	0.002998	0.01925	-8.126	2.420	10.188	1.681	0.205	3.79	-0.021	0.375
12.00	-0.1677	0.054770	0.002752	0.005873	0.02661	-13.552	2.652	13.192	1.867	0.133	4.96	0.190	0.475

TABLE 2. - Continued

CALCULATED CHARACTERISTICS OF A ROTOR HAVING RECTANGULAR BLADES WITH A LINEAR TWIST OF -4°

(u) $\frac{V}{\Omega R}$ = 0.70; $M_{(1.0,90°)}$ = 0.8 - Concluded

$\theta_{.75R}$, deg	λ	$\frac{C'_L}{\sigma}$	$\frac{C'_D}{\sigma}$	$\frac{C_Q}{\sigma}$	$\frac{bC_{Q,D}}{\sigma}$	α_c, deg	a_0, deg	a_1, deg	a_2, deg	a_3, deg	b_1, deg	b_2, deg	b_3, deg
$\frac{C'_L}{\sigma}$ = 0.06													
-4.00	0.1062	0.060407	0.011205	-0.003055	0.00248	9.093	2.019	0.997	0.706	0.099	1.90	-0.112	0.065
-0.	0.0356	0.060348	0.008000	-0.001382	0.00437	3.267	2.234	3.986	1.033	0.166	2.33	-0.191	0.135
4.00	-0.0308	0.059662	0.006154	0.000634	0.01404	-2.173	2.462	7.546	1.498	0.217	3.27	-0.111	0.290
8.00	-0.0958	0.059812	0.004823	0.003431	0.02424	-7.522	2.678	10.892	1.802	0.170	4.42	0.049	0.427
$\frac{C'_L}{\sigma}$ = 0.07													
-4.00	0.1141	0.070191	0.014079	-0.004253	0.00498	9.810	2.512	1.929	0.934	0.135	2.46	-0.119	0.120
-0.	0.0452	0.070372	0.010481	-0.001981	0.01107	4.119	2.726	5.120	1.300	0.190	3.08	-0.144	0.229
4.00	-0.0195	0.069781	0.008369	0.000928	0.02305	-1.190	2.953	8.695	1.695	0.181	4.21	-0.014	0.390

TABLE 2. - Continued

CALCULATED CHARACTERISTICS OF A ROTOR HAVING RECTANGULAR BLADES WITH A LINEAR TWIST OF -4°

(v) $\frac{V}{\Omega R} = 0.70$; $M_{(1.0,90°)} = 0.9$

$\theta_{.75R}$, deg	λ	$\frac{C'_L}{\sigma}$	$\frac{C'_D}{\sigma}$	$\frac{C_Q}{\sigma}$	$\frac{bC_{Q,D}}{\sigma}$	α_c, deg	a_0, deg	a_1, deg	a_2, deg	a_3, deg	b_1, deg	b_2, deg	b_3, deg
$\frac{C'_L}{\sigma} = 0$													
-4.00	0.0654	0.000111	0.003431	0.003170	0.00079	5.365	-0.996	-3.560	-0.521	-0.098	-1.05	0.164	-0.071
-0.	-0.0037	-0.000076	0.003517	0.002896	0.00071	-0.303	-0.664	-0.295	-0.118	-0.014	-0.57	-0.012	-0.028
4.00	-0.0745	0.000091	0.004181	0.002629	0.00074	-6.112	-0.396	2.664	0.190	0.057	-0.18	-0.138	0.025
8.00	-0.1444	0.000193	0.005060	0.002513	0.00081	-11.924	-0.133	5.627	0.500	0.121	0.24	-0.249	0.082
12.00	-0.2128	0.000339	0.005937	0.002672	0.00108	-17.772	0.153	8.547	0.801	0.173	0.67	-0.356	0.123
16.00	-0.2806	0.000485	0.006909	0.003098	0.00182	-23.640	0.414	11.363	1.071	0.208	1.14	-0.409	0.170
20.00	-0.3457	0.000200	0.007701	0.003843	0.00388	-29.608	0.636	14.007	1.290	0.210	1.68	-0.381	0.220
$\frac{C'_L}{\sigma} = 0.01$													
-4.00	0.0716	0.010188	0.003872	0.002921	0.00077	5.937	-0.482	-2.878	-0.337	-0.071	-0.56	0.123	-0.054
-0.	0.0019	0.009961	0.003487	0.002920	0.00071	0.213	-0.172	0.270	0.030	0.007	-0.12	-0.041	-0.012
4.00	-0.0684	0.010076	0.003643	0.002991	0.00073	-5.550	0.108	3.333	0.371	0.084	0.30	-0.176	0.043
8.00	-0.1385	0.010248	0.004043	0.003161	0.00086	-11.368	0.374	6.261	0.664	0.144	0.71	-0.281	0.099
12.00	-0.2069	0.010457	0.004452	0.003627	0.00131	-17.191	0.674	9.192	0.966	0.196	1.16	-0.378	0.142
16.00	-0.2744	0.010500	0.004913	0.004477	0.00277	-23.030	0.932	12.021	1.230	0.223	1.68	-0.401	0.199
20.00	-0.3387	0.010465	0.005088	0.005925	0.00789	-28.891	1.156	14.741	1.445	0.209	2.39	-0.307	0.270
$\frac{C'_L}{\sigma} = 0.02$													
-4.00	0.0780	0.020333	0.004795	0.002372	0.00081	6.521	0.038	-2.174	-0.147	-0.042	-0.07	0.078	-0.037
-0.	0.0077	0.020341	0.003895	0.002673	0.00074	0.750	0.336	0.863	0.186	0.030	0.34	-0.070	0.006
4.00	-0.0622	0.020050	0.003578	0.003051	0.00076	-4.987	0.616	4.006	0.553	0.111	0.78	-0.217	0.059
8.00	-0.1327	0.020273	0.003429	0.003568	0.00100	-10.819	0.880	6.883	0.828	0.168	1.18	-0.310	0.117
12.00	-0.2009	0.020325	0.003403	0.004368	0.00189	-16.411	1.178	9.829	1.128	0.215	1.67	-0.389	0.166
16.00	-0.2680	0.020095	0.003394	0.005779	0.00580	-22.400	1.400	12.709	1.393	0.230	2.31	-0.341	0.250
20.00	-0.3307	0.019818	0.003102	0.007757	0.01293	-28.222	1.612	15.425	1.577	0.191	3.16	-0.184	0.327
$\frac{C'_L}{\sigma} = 0.03$													
-4.00	0.0842	0.029996	0.006093	0.001619	0.00090	7.087	0.530	-1.478	0.040	-0.013	0.41	0.038	-0.016
-0.	0.0134	0.029972	0.004676	0.002217	0.00079	1.273	0.791	1.480	0.355	0.058	0.81	-0.078	0.040
4.00	-0.0561	0.030043	0.004034	0.002769	0.00088	-4.420	1.128	4.685	0.738	0.139	1.27	-0.255	0.076
8.00	-0.1268	0.030181	0.003219	0.003733	0.00130	-10.273	1.381	7.501	0.992	0.191	1.67	-0.332	0.137
12.00	-0.1949	0.029723	0.002772	0.005017	0.00385	-16.044	1.644	10.472	1.293	0.232	2.22	-0.367	0.202
16.00	-0.2599	0.029850	0.002394	0.007169	0.01266	-21.672	1.863	13.495	1.567	0.221	3.13	-0.217	0.319

TABLE 2. - Continued

CALCULATED CHARACTERISTICS OF A ROTOR HAVING RECTANGULAR BLADES WITH A LINEAR TWIST OF -4°

(v) $\frac{V}{\Omega R} = 0.70$; $M_{(1.0,90°)} = 0.9$ - Continued

$\theta_{.75R}$, deg	λ	$\frac{C'_L}{\sigma}$	$\frac{C'_D}{\sigma}$	$\frac{C_Q}{\sigma}$	$\frac{bC_{Q,D}}{\sigma}$	α_c, deg	a_0, deg	a_1, deg	a_2, deg	a_3, deg	b_1, deg	b_2, deg	b_3, deg
$\frac{C'_L}{\sigma} = 0.04$													
-4.00	0.0907	0.040016	0.007823	0.000634	0.00108	7.688	1.038	-0.730	0.242	0.019	0.91	-0.006	0.005
-0.	0.0197	0.040310	0.005837	0.001557	0.00096	1.850	1.313	2.172	0.537	0.087	1.29	-0.135	0.050
4.00	-0.0497	0.039966	0.004840	0.002333	0.00123	-3.840	1.629	5.402	0.944	0.175	1.79	-0.280	0.098
8.00	-0.1208	0.039667	0.003421	0.003737	0.00210	-9.714	1.847	8.159	1.172	0.216	2.20	-0.323	0.173
12.00	-0.1868	0.039651	0.002809	0.005928	0.01203	-15.256	2.063	11.403	1.529	0.238	3.13	-0.195	0.312
16.00	-0.2500	0.039559	0.002460	0.008747	0.02051	-20.706	2.244	14.486	1.749	0.166	4.36	0.063	0.440
$\frac{C'_L}{\sigma} = 0.045$													
-4.00	0.0942	0.045038	0.008827	0.000089	0.00124	8.003	1.293	-0.323	0.351	0.037	1.16	-0.031	0.017
-0.	0.0228	0.045018	0.006513	0.001192	0.00112	2.131	1.542	2.533	0.637	0.104	1.53	-0.150	0.065
4.00	-0.0461	0.044620	0.005332	0.002169	0.00256	-3.516	1.838	5.856	1.083	0.202	2.12	-0.260	0.130
8.00	-0.1164	0.044645	0.003752	0.003967	0.00658	-9.313	2.064	8.700	1.332	0.239	2.65	-0.253	0.225
12.00	-0.1814	0.044590	0.003177	0.006562	0.01735	-14.766	2.261	11.948	1.646	0.217	3.75	-0.055	0.379
16.00	-0.2444	0.044521	0.002696	0.009672	0.02490	-20.195	2.475	14.960	1.819	0.127	4.99	0.176	0.471
$\frac{C'_L}{\sigma} = 0.05$													
-4.00	0.0977	0.050088	0.009943	-0.000503	0.00141	8.323	1.547	0.093	0.464	0.057	1.42	-0.053	0.030
-0.	0.0264	0.050076	0.007334	0.000783	0.00141	2.454	1.788	2.972	0.760	0.126	1.80	-0.171	0.080
4.00	-0.0416	0.049831	0.005955	0.002142	0.00611	-3.120	2.090	6.396	1.234	0.224	2.51	-0.235	0.170
8.00	-0.1101	0.049795	0.004463	0.004407	0.01448	-8.767	2.288	9.433	1.525	0.238	3.29	-0.139	0.301
12.00	-0.1757	0.049867	0.003795	0.007309	0.02236	-14.203	2.498	12.548	1.782	0.181	4.45	0.080	0.434
$\frac{C'_L}{\sigma} = 0.055$													
-4.00	0.1014	0.055369	0.011181	-0.001120	0.00175	8.666	1.827	0.537	0.580	0.078	1.68	-0.092	0.037
-0.	0.0302	0.055262	0.008263	0.000374	0.00240	2.798	2.050	3.438	0.889	0.149	2.09	-0.153	0.096
4.00	-0.0367	0.054853	0.006729	0.002219	0.01066	-2.689	2.313	6.966	1.375	0.229	2.96	-0.174	0.230
8.00	-0.1036	0.054527	0.005416	0.004921	0.01998	-8.198	2.482	10.148	1.672	0.205	3.96	-0.018	0.376
12.00	-0.1687	0.054784	0.004573	0.008064	0.02716	-13.638	2.720	13.141	1.859	0.135	5.13	0.189	0.476

TABLE 2. - Concluded

CALCULATED CHARACTERISTICS OF A ROTOR HAVING RECTANGULAR BLADES WITH A LINEAR TWIST OF -4°

(v) $\frac{V}{\Omega R} = 0.70$; $M_{(1.0,90°)} = 0.9$ - Concluded

$\theta_{.75R}$, deg	λ	$\frac{C'_L}{\sigma}$	$\frac{C'_D}{\sigma}$	$\frac{C_Q}{\sigma}$	$\frac{bC_{Q,D}}{\sigma}$	α_c, deg	a_0, deg	a_1, deg	a_2, deg	a_3, deg	b_1, deg	b_2, deg	b_3, deg
$\frac{C'_L}{\sigma} = 0.06$													
-4.00	0.1049	0.060066	0.012407	-0.001696	0.00235	8.983	2.062	0.955	0.690	0.098	1.95	-0.103	0.057
-0.	0.0343	0.060129	0.009280	0.000021	0.00437	3.163	2.282	3.946	1.024	0.172	2.41	-0.185	0.133
4.00	-0.0316	0.059684	0.007653	0.002380	0.01537	-2.238	2.526	7.536	1.496	0.219	3.44	-0.103	0.294
8.00	-0.0967	0.059839	0.006551	0.005516	0.02495	-7.598	2.746	10.860	1.795	0.169	4.60	0.055	0.428
$\frac{C'_L}{\sigma} = 0.07$													
-4.00	0.1131	0.070298	0.015358	-0.002840	0.00520	9.728	2.593	1.929	0.930	0.139	2.54	-0.130	0.107
-0.	0.0444	0.070488	0.011883	-0.000363	0.01192	4.056	2.797	5.139	1.303	0.193	3.23	-0.137	0.231
4.00	-0.0203	0.069758	0.010009	0.002932	0.02400	-1.265	3.022	8.702	1.692	0.179	4.40	-0.007	0.392

TABLE 3

CALCULATED CHARACTERISTICS OF A ROTOR HAVING RECTANGULAR BLADES WITH A LINEAR TWIST OF 0°

(a) $\frac{V}{\Omega R} = 0.30$; $M_{(1.0,90^\circ)} = 0.7$

$\theta_{.75R}$, deg	λ	$\frac{C'_L}{\sigma}$	$\frac{C'_D}{\sigma}$	$\frac{C_Q}{\sigma}$	$\frac{bC_{Q,D}}{\sigma}$	α_c, deg	a_0, deg	a_1, deg	a_2, deg	a_3, deg	b_1, deg	b_2, deg	b_3, deg
$\frac{C'_L}{\sigma} = 0.03$													
-4.00	0.0738	0.029876	0.0084	-0.0008	0.00102	14.721	1.099	-0.618	0.040	0.001	0.44	0.012	0.002
-0.	0.0202	0.030024	0.0032	0.0007	0.00090	4.840	1.361	0.865	0.104	0.006	0.55	-0.026	0.002
4.00	-0.0323	0.030008	-0.000864	0.001755	0.00091	-5.234	1.663	2.420	0.180	0.013	0.68	-0.057	0.008
8.00	-0.0846	0.030375	-0.005577	0.003304	0.00104	-14.931	2.029	4.031	0.263	0.022	0.85	-0.087	0.016
12.00	-0.1349	0.030002	-0.011710	0.005263	0.00138	-25.639	2.425	5.175	0.287	0.022	0.94	-0.091	0.019
16.00	-0.1839	0.029588	-0.019057	0.007906	0.00193	-36.492	2.906	6.100	0.296	0.019	1.03	-0.086	0.018
$\frac{C'_L}{\sigma} = 0.04$													
-4.00	0.0813	0.040199	0.012879	-0.002112	0.00111	17.053	1.714	-0.257	0.079	0.004	0.66	0.001	0.004
-0.	0.0273	0.040054	0.006331	-0.000270	0.00092	6.526	1.919	1.172	0.143	0.009	0.77	-0.029	0.006
4.00	-0.0256	0.040154	0.000001	0.001625	0.00092	-3.615	2.211	2.709	0.215	0.014	0.90	-0.067	0.007
8.00	-0.0775	0.039906	-0.006417	0.003610	0.00107	-13.672	2.548	4.221	0.287	0.023	1.04	-0.081	0.020
12.00	-0.1284	0.039583	-0.013656	0.005985	0.00144	-23.924	2.953	5.522	0.327	0.024	1.16	-0.096	0.020
16.00	-0.1765	0.039607	-0.022580	0.009156	0.00232	-34.380	3.478	6.592	0.353	0.026	1.29	-0.079	0.028
$\frac{C'_L}{\sigma} = 0.05$													
0.	0.0344	0.049986	0.009511	-0.001040	0.00094	8.230	2.479	1.484	0.181	0.010	1.00	-0.034	0.009
4.00	-0.0188	0.050103	0.001578	0.001317	0.00096	-1.995	2.751	3.015	0.256	0.018	1.13	-0.065	0.014
8.00	-0.0708	0.049921	-0.006347	0.003766	0.00113	-12.039	3.088	4.533	0.326	0.025	1.27	-0.087	0.021
12.00	-0.1227	0.050238	-0.014035	0.006556	0.00178	-21.345	3.511	6.219	0.419	0.033	1.49	-0.109	0.027
16.00	-0.1690	0.049626	-0.025198	0.010284	0.00302	-32.350	4.027	7.094	0.413	0.031	1.55	-0.078	0.031
$\frac{C'_L}{\sigma} = 0.06$													
0.	0.0419	0.060047	0.013386	-0.002005	0.00100	9.844	3.069	1.839	0.229	0.014	1.23	-0.049	0.009
4.00	-0.0120	0.060078	0.003824	0.000853	0.00103	-0.379	3.299	3.296	0.288	0.019	1.34	-0.075	0.012
8.00	-0.0644	0.059508	-0.005641	0.003772	0.00125	-10.475	3.602	4.839	0.364	0.027	1.48	-0.092	0.022
12.00	-0.1160	0.059569	-0.0148	0.006985	0.00228	-19.821	4.009	6.596	0.472	0.038	1.74	-0.103	0.033
16.00	-0.1611	0.059647	-0.026871	0.011405	0.00480	-30.224	4.537	7.699	0.487	0.035	1.90	-0.058	0.040

TABLE 3. - Continued

CALCULATED CHARACTERISTICS OF A ROTOR HAVING RECTANGULAR BLADES WITH A LINEAR TWIST OF 0°

(a) $\frac{V}{\Omega R} = 0.30$; $M_{(1.0,90°)} = 0.7$ - Concluded

$\theta_{.75R}$, deg	λ	$\frac{C'_L}{\sigma}$	$\frac{C'_D}{\sigma}$	$\frac{C_Q}{\sigma}$	$\frac{bC_{Q,D}}{\sigma}$	α_c, deg	a_0, deg	a_1, deg	a_2, deg	a_3, deg	b_1, deg	b_2, deg	b_3, deg
$\frac{C'_L}{\sigma} = 0.07$													
0.	0.0496	0.069795	0.018309	-0.003105	0.00111	11.851	3.664	2.155	0.266	0.017	1.44	-0.058	0.010
4.00	-0.0046	0.070317	0.006965	0.000189	0.00113	1.360	3.875	3.627	0.334	0.023	1.58	-0.077	0.017
8.00	-0.0573	0.069586	-0.004143	0.003609	0.00153	-8.785	4.138	5.202	0.417	0.033	1.75	-0.080	0.032
12.00	-0.1069	0.069665	-0.015279	0.007466	0.00308	-18.542	4.551	6.783	0.501	0.041	1.96	-0.078	0.039
16.00	-0.1514	0.069998	-0.027128	0.012686	0.00920	-27.696	5.025	8.623	0.624	0.047	2.38	-0.019	0.052
$\frac{C'_L}{\sigma} = 0.08$													
0.	0.0582	0.079788	0.024354	-0.004461	0.00159	13.935	4.303	2.569	0.321	0.022	1.68	-0.069	0.013
4.00	0.0030	0.080317	0.010882	-0.000624	0.00131	3.159	4.453	3.997	0.388	0.028	1.82	-0.084	0.019
8.00	-0.0497	0.080017	-0.001705	0.003322	0.00217	-6.977	4.705	5.637	0.486	0.040	2.03	-0.087	0.030
12.00	-0.0980	0.079925	-0.013954	0.008036	0.00679	-16.420	5.058	7.471	0.615	0.052	2.37	-0.050	0.047
16.00	-0.1268	0.079716	-0.020474	0.015161	0.02609	-22.253	5.197	11.583	1.033	0.021	4.42	0.328	0.156
$\frac{C'_L}{\sigma} = 0.09$													
0.	0.0686	0.089664	0.031934	-0.005995	0.00314	16.384	4.983	3.173	0.420	0.036	1.94	-0.093	0.010
4.00	0.0119	0.089830	0.015874	-0.001530	0.00279	5.190	5.025	4.558	0.492	0.041	2.11	-0.095	0.018
8.00	-0.0409	0.089839	0.001615	0.003158	0.00517	-4.992	5.223	6.208	0.591	0.053	2.38	-0.065	0.038

TABLE 3. - Continued

CALCULATED CHARACTERISTICS OF A ROTOR HAVING RECTANGULAR BLADES WITH A LINEAR TWIST OF 0°

(b) $\frac{V}{\Omega R} = 0.30$; $M_{(1.0,90°)} = 0.8$

$\theta_{.75R}$, deg	λ	$\frac{C'_L}{\sigma}$	$\frac{C'_D}{\sigma}$	$\frac{C_Q}{\sigma}$	$\frac{bC_{Q,D}}{\sigma}$	α_c, deg	a_0, deg	a_1, deg	a_2, deg	a_3, deg	b_1, deg	b_2, deg	b_3, deg
$\frac{C'_L}{\sigma} = 0.03$													
-4.00	0.0733	0.030403	0.008710	-0.000962	0.00102	15.147	1.192	-0.605	0.036	-0.001	0.45	0.004	-0.003
-0.	0.0194	0.029941	0.003846	0.000441	0.00090	4.684	1.429	0.890	0.110	0.008	0.58	-0.025	0.005
4.00	-0.0335	0.029967	-0.000858	0.001907	0.00092	-5.454	1.739	2.455	0.183	0.013	0.72	-0.064	0.007
8.00	-0.0856	0.029821	-0.005766	0.003543	0.00110	-15.589	2.100	3.968	0.258	0.024	0.87	-0.083	0.020
12.00	-0.1365	0.029962	-0.011671	0.005702	0.00164	-25.952	2.528	5.254	0.297	0.025	0.99	-0.096	0.019
16.00	-0.1850	0.029931	-0.019148	0.008714	0.00267	-36.714	3.030	6.247	0.310	0.022	1.10	-0.081	0.020
$\frac{C'_L}{\sigma} = 0.04$													
-4.00	0.0807	0.040430	0.012479	-0.002025	0.00109	16.270	1.782	-0.267	0.086	0.004	0.70	-0.005	0.001
-0.	0.0261	0.040023	0.006255	-0.000143	0.00092	6.298	1.985	1.188	0.143	0.007	0.80	-0.035	0.004
4.00	-0.0270	0.039869	-0.000046	0.001809	0.00093	-3.899	2.282	2.765	0.226	0.019	0.94	-0.067	0.013
8.00	-0.0791	0.039850	-0.006439	0.003928	0.00119	-13.983	2.645	4.288	0.297	0.027	1.09	-0.089	0.022
12.00	-0.1297	0.039987	-0.013724	0.006569	0.00193	-24.168	3.081	5.644	0.343	0.028	1.23	-0.098	0.023
16.00	-0.1774	0.039983	-0.022615	0.010158	0.00335	-34.535	3.593	6.801	0.371	0.028	1.39	-0.069	0.031
$\frac{C'_L}{\sigma} = 0.05$													
0.	0.0329	0.049815	0.009342	-0.000876	0.00094	7.937	2.550	1.505	0.187	0.013	1.02	-0.043	0.008
4.00	-0.0205	0.049949	0.001453	0.001556	0.00099	-2.323	2.833	3.067	0.265	0.021	1.17	-0.073	0.015
8.00	-0.0726	0.049863	-0.006422	0.004164	0.00137	-12.383	3.185	4.614	0.338	0.030	1.32	-0.093	0.024
12.00	-0.1231	0.049568	-0.014980	0.007274	0.00237	-22.470	3.592	6.039	0.392	0.031	1.49	-0.093	0.028
16.00	-0.1727	0.050242	-0.0250	0.011481	0.00540	-30.671	4.058	8.029	0.513	0.037	1.90	-0.063	0.050

TABLE 3.- Continued

CALCULATED CHARACTERISTICS OF A ROTOR HAVING RECTANGULAR BLADES WITH A LINEAR TWIST OF 0°

(b) $\frac{V}{\Omega R} = 0.30$; $M_{(1.0,90°)} = 0.8$ - Concluded

$\theta_{.75R}$, deg	λ	$\frac{C'_L}{\sigma}$	$\frac{C'_D}{\sigma}$	$\frac{C_Q}{\sigma}$	$\frac{bC_{Q,D}}{\sigma}$	α_c, deg	a_0, deg	a_1, deg	a_2, deg	a_3, deg	b_1, deg	b_2, deg	b_3, deg
$\frac{C'_L}{\sigma} = 0.06$													
0.	0.0402	0.060041	0.013344	-0.001809	0.00100	9.699	3.150	1.842	0.229	0.016	1.25	-0.053	0.009
4.00	-0.0137	0.060127	0.003693	0.001140	0.00112	-0.708	3.396	3.375	0.304	0.024	1.40	-0.079	0.017
8.00	-0.0662	0.059632	-0.005709	0.004264	0.00168	-10.794	3.707	4.959	0.384	0.032	1.56	-0.096	0.025
12.00	-0.1154	0.059979	-0.015456	0.007919	0.00337	-20.554	4.137	6.546	0.463	0.039	1.80	-0.077	0.041
16.00	-0.1612	0.059756	-0.026473	0.012838	0.00711	-30.192	4.606	8.095	0.521	0.036	2.05	-0.043	0.045
$\frac{C'_L}{\sigma} = 0.07$													
0.	0.0478	0.069982	0.018146	-0.002909	0.00113	11.519	3.745	2.210	0.276	0.019	1.50	-0.052	0.018
4.00	-0.0065	0.070446	0.006774	0.000552	0.00134	0.998	3.975	3.717	0.350	0.028	1.64	-0.083	0.019
8.00	-0.0587	0.070064	-0.004148	0.004228	0.00229	-9.038	4.260	5.371	0.443	0.037	1.85	-0.088	0.032
12.00	-0.1077	0.069626	-0.015102	0.008550	0.00518	-18.687	4.620	7.089	0.537	0.043	2.12	-0.060	0.049
16.00	-0.1504	0.069674	-0.026256	0.014263	0.01225	-27.500	5.029	9.174	0.668	0.044	2.66	0.031	0.077
$\frac{C'_L}{\sigma} = 0.08$													
0.	0.0558	0.079708	0.023331	-0.004154	0.00171	13.030	4.363	2.704	0.355	0.029	1.77	-0.084	0.013
4.00	0.0009	0.080102	0.010545	-0.000146	0.00176	2.730	4.524	4.118	0.412	0.034	1.90	-0.084	0.023
8.00	-0.0506	0.080284	-0.0013	0.004132	0.00378	-7.155	4.793	5.885	0.525	0.045	2.19	-0.068	0.043
12.00	-0.0975	0.079624	-0.013364	0.009399	0.00984	-16.326	5.080	7.971	0.677	0.054	2.65	-0.001	0.074
16.00	-0.1247	0.079632	-0.019322	0.016876	0.02922	-21.816	5.238	12.101	1.041	0.007	4.63	0.307	0.165
$\frac{C'_L}{\sigma} = 0.09$													
0.	0.0671	0.089665	0.031616	-0.005504	0.00415	16.077	5.059	3.384	0.471	0.046	2.05	-0.101	0.010
4.00	0.0105	0.089609	0.015932	-0.000863	0.00342	5.185	5.095	4.601	0.500	0.046	2.16	-0.074	0.030
8.00	-0.0398	0.089711	0.002266	0.004471	0.00953	-4.779	5.265	6.794	0.698	0.065	2.71	-0.021	0.060

TABLE 3.- Continued

CALCULATED CHARACTERISTICS OF A ROTOR HAVING RECTANGULAR BLADES WITH A LINEAR TWIST OF 0°

(c) $\frac{V}{\Omega R} = 0.30$; $M_{(1.0,90°)} = 0.9$

$\theta_{.75R}$, deg	λ	$\frac{C'_L}{\sigma}$	$\frac{C'_D}{\sigma}$	$\frac{C_Q}{\sigma}$	$\frac{bC_{Q,D}}{\sigma}$	α_c, deg	a_0, deg	a_1, deg	a_2, deg	a_3, deg	b_1, deg	b_2, deg	b_3, deg
$\frac{C'_L}{\sigma} = 0.03$													
-4.00	0.0726	0.030408	0.009339	-0.000283	0.00101	15.046	1.239	-0.596	0.034	-0.003	0.46	0.005	-0.004
-0.	0.0184	0.029698	0.004432	0.001225	0.00092	4.490	1.470	0.892	0.116	0.010	0.60	-0.031	0.007
4.00	-0.0348	0.029524	-0.000189	0.002806	0.00105	-5.723	1.779	2.458	0.201	0.021	0.75	-0.075	0.016
8.00	-0.0870	0.029808	-0.005075	0.004629	0.00145	-15.879	2.161	3.967	0.276	0.031	0.91	-0.101	0.029
12.00	-0.1380	0.029919	-0.010914	0.007065	0.00238	-26.290	2.583	5.270	0.317	0.031	1.04	-0.106	0.031
16.00	-0.1861	0.029863	-0.018289	0.010462	0.00399	-37.020	3.063	6.316	0.328	0.025	1.16	-0.079	0.031
$\frac{C'_L}{\sigma} = 0.04$													
-4.00	0.0795	0.040427	0.013482	-0.001373	0.00108	16.753	1.834	-0.252	0.077	0.001	0.70	-0.004	0.000
-0.	0.0248	0.039711	0.006778	0.000678	0.00095	6.057	2.033	1.201	0.157	0.013	0.82	-0.042	0.009
4.00	-0.0286	0.039509	0.000540	0.002794	0.00114	-4.220	2.325	2.761	0.241	0.024	0.97	-0.083	0.019
8.00	-0.0807	0.039814	-0.005771	0.005141	0.00168	-14.302	2.706	4.297	0.319	0.035	1.14	-0.106	0.032
12.00	-0.1311	0.039937	-0.012964	0.008125	0.00295	-24.480	3.128	5.689	0.370	0.035	1.30	-0.104	0.036
16.00	-0.1781	0.039924	-0.021714	0.012169	0.00507	-34.746	3.612	6.922	0.397	0.031	1.46	-0.066	0.043
$\frac{C'_L}{\sigma} = 0.05$													
0.	0.0314	0.049751	0.009841	-0.000017	0.00104	7.660	2.608	1.518	0.198	0.017	1.04	-0.053	0.011
4.00	-0.0223	0.049623	0.001961	0.002637	0.00129	-2.684	2.881	3.071	0.282	0.028	1.20	-0.091	0.022
8.00	-0.0742	0.049826	-0.005776	0.005526	0.00206	-12.708	3.242	4.643	0.364	0.037	1.38	-0.107	0.035
12.00	-0.1238	0.049930	-0.014211	0.009064	0.00384	-22.628	3.650	6.165	0.434	0.041	1.60	-0.085	0.051
16.00	-0.1726	0.050330	-0.0240	0.0117	0.00777	-30.713	4.053	8.135	0.551	0.042	2.00	-0.060	0.071
$\frac{C'_L}{\sigma} = 0.06$													
0.	0.0375	0.059801	0.013375	-0.000895	0.00116	9.167	3.138	0.001	0.000	0.000	0.00	-0.000	0.000
4.00	-0.0157	0.059804	0.004123	0.002336	0.00154	-1.101	3.444	3.395	0.326	0.032	1.44	-0.095	0.025
8.00	-0.0673	0.060056	-0.004983	0.005815	0.00276	-11.012	3.783	5.047	0.421	0.041	1.66	-0.105	0.040
12.00	-0.1165	0.059518	-0.014599	0.009911	0.00517	-20.800	4.135	6.666	0.496	0.043	1.90	-0.073	0.059
16.00	-0.1609	0.059678	-0.025234	0.015240	0.00989	-30.167	4.592	8.345	0.559	0.039	2.18	-0.032	0.067

TABLE 3. - Continued

CALCULATED CHARACTERISTICS OF A ROTOR HAVING RECTANGULAR BLADES WITH A LINEAR TWIST OF 0°

(c) $\frac{V}{\Omega R} = 0.30$; $M_{(1.0,90°)} = 0.9$ - Concluded

$\theta_{.75R}$, deg	λ	$\frac{C'_L}{\sigma}$	$\frac{C'_D}{\sigma}$	$\frac{C_Q}{\sigma}$	$\frac{bC_{Q,D}}{\sigma}$	α_c, deg	a_0, deg	a_1, deg	a_2, deg	a_3, deg	b_1, deg	b_2, deg	b_3, deg
$\frac{C'_L}{\sigma} = 0.07$													
0.	0.0460	0.070484	0.018715	-0.001945	0.00145	11.214	3.850	2.242	0.292	0.025	1.53	-0.079	0.016
4.00	-0.0086	0.070069	0.007128	0.001893	0.00202	0.582	4.012	3.767	0.378	0.036	1.71	-0.094	0.030
8.00	-0.0596	0.070448	-0.003335	0.005996	0.00390	-9.194	4.323	5.524	0.490	0.046	1.98	-0.090	0.050
12.00	-0.1078	0.069643	-0.014062	0.010811	0.00796	-18.721	4.630	7.313	0.582	0.048	2.27	-0.054	0.070
16.00	-0.1496	0.069604	-0.024759	0.016749	0.01438	-27.367	5.003	9.449	0.696	0.042	2.79	0.033	0.096
$\frac{C'_L}{\sigma} = 0.08$													
0.	0.0543	0.080165	0.024481	-0.003075	0.00202	13.193	4.461	2.744	0.372	0.035	1.81	-0.087	0.021
4.00	-0.0004	0.080263	0.011230	0.001328	0.00305	2.496	4.582	4.282	0.463	0.045	2.04	-0.082	0.043
8.00	-0.0508	0.080458	-0.000662	0.006184	0.00636	-7.199	4.831	6.137	0.584	0.053	2.36	-0.061	0.066
12.00	-0.0962	0.079846	-0.011852	0.011890	0.01291	-16.084	5.090	8.337	0.734	0.057	2.85	0.001	0.095
16.00	-0.1243	0.079709	-0.018067	0.019095	0.03033	-21.758	5.244	12.207	1.026	0.007	4.66	0.271	0.175
$\frac{C'_L}{\sigma} = 0.09$													
0.	0.0680	0.089576	0.032582	-0.003833	0.00746	16.260	5.112	3.866	0.579	0.065	2.30	-0.080	0.038
4.00	0.0137	0.089603	0.017350	0.001541	0.01048	5.532	5.127	5.557	0.714	0.075	2.66	-0.047	0.064

TABLE 3. - Continued

CALCULATED CHARACTERISTICS OF A ROTOR HAVING RECTANGULAR BLADES WITH A LINEAR TWIST OF 0°

(d) $\frac{V}{\Omega R} = 0.40$; $M_{(1.0,90°)} = 0.7$

$\theta_{.75R}$, deg	λ	$\frac{C'_L}{\sigma}$	$\frac{C'_D}{\sigma}$	$\frac{C_Q}{\sigma}$	$\frac{bC_{Q,D}}{\sigma}$	α_c, deg	a_0, deg	a_1, deg	a_2, deg	a_3, deg	b_1, deg	b_2, deg	b_3, deg
$\frac{C'_L}{\sigma} = 0$													
-4.00	0.0562	0.000243	0.000989	0.001210	0.00089	8.084	-0.579	-1.957	-0.126	-0.014	-0.33	0.040	-0.014
-0.	0.	-0.000008	0.000958	0.001182	0.00084	-0.000	-0.303	0.003	-0.004	0.002	-0.16	-0.012	-0.002
4.00	-0.0560	-0.000028	0.000964	0.001220	0.00087	-8.057	-0.022	1.975	0.119	0.016	0.03	-0.059	0.012
8.00	-0.1117	-0.000128	0.000691	0.001446	0.00104	-16.230	0.271	3.857	0.233	0.030	0.22	-0.101	0.023
12.00	-0.1664	0.000014	-0.000021	0.001986	0.00131	-24.602	0.586	5.562	0.321	0.035	0.40	-0.130	0.029
16.00	-0.2202	-0.000480	-0.000965	0.002787	0.00173	-33.441	0.895	6.965	0.378	0.038	0.55	-0.137	0.034
20.00	-0.2718	-0.000006	-0.002752	0.004210	0.00221	-42.813	1.290	7.911	0.382	0.029	0.68	-0.132	0.029
$\frac{C'_L}{\sigma} = 0.01$													
-4.00	0.0631	0.010326	0.002410	0.000674	0.00091	9.267	-0.035	-1.556	-0.062	-0.009	-0.04	0.029	-0.010
-0.	0.0070	0.010463	0.001271	0.001076	0.00084	1.206	0.251	0.393	0.059	0.006	0.14	-0.021	0.002
4.00	-0.0492	0.010131	0.000115	0.001563	0.00086	-6.881	0.521	2.372	0.183	0.021	0.32	-0.069	0.016
8.00	-0.1048	0.009927	-0.001245	0.002195	0.00100	-15.015	0.820	4.270	0.297	0.034	0.50	-0.112	0.027
12.00	-0.1598	0.009504	-0.002996	0.003116	0.00129	-23.384	1.121	5.977	0.380	0.039	0.68	-0.139	0.033
16.00	-0.2167	0.010133	-0.005600	0.004545	0.00174	-30.437	1.508	8.005	0.509	0.051	0.94	-0.176	0.043
20.00	-0.2642	0.009583	-0.008816	0.006466	0.00235	-41.170	1.921	8.482	0.450	0.036	0.97	-0.135	0.036
$\frac{C'_L}{\sigma} = 0.02$													
-4.00	0.0701	0.020427	0.004410	-0.000056	0.00095	10.468	0.515	-0.000	0.000	-0.000	0.00	0.000	-0.000
-0.	0.0134	0.020100	0.002114	0.000790	0.00085	2.279	0.763	0.754	0.115	0.009	0.41	-0.037	0.001
4.00	-0.0426	0.019884	-0.000156	0.001703	0.00086	-5.760	1.042	2.751	0.245	0.026	0.60	-0.079	0.020
8.00	-0.0980	0.019951	-0.002606	0.002757	0.00100	-13.826	1.362	4.675	0.361	0.039	0.79	-0.123	0.031
12.00	-0.1528	0.019596	-0.005501	0.004105	0.00133	-22.106	1.683	6.418	0.446	0.044	0.97	-0.149	0.037
16.00	-0.2057	0.019863	-0.009321	0.005997	0.00182	-30.544	2.095	7.954	0.508	0.047	1.15	-0.158	0.041
20.00	-0.2566	0.019807	-0.014162	0.008586	0.00272	-39.416	2.545	9.113	0.523	0.041	1.31	-0.136	0.043
$\frac{C'_L}{\sigma} = 0.08$													
-4.00	0.0769	0.030040	0.006863	-0.000928	0.00101	11.647	1.045	-0.744	0.067	0.001	0.53	0.005	-0.002
-0.	0.0203	0.030171	0.003560	0.000287	0.00086	3.452	1.307	1.151	0.181	0.014	0.70	-0.048	0.005
4.00	-0.0358	0.029951	0.000130	0.001652	0.00088	-4.603	1.580	3.143	0.310	0.030	0.89	-0.089	0.023
8.00	-0.0913	0.029980	-0.0037	0.003127	0.00104	-12.650	1.902	5.077	0.425	0.044	1.08	-0.132	0.035
12.00	-0.1460	0.029712	-0.007427	0.004911	0.00141	-20.855	2.239	6.849	0.511	0.049	1.27	-0.157	0.042
16.00	-0.1986	0.029967	-0.012331	0.007280	0.00210	-29.165	2.667	8.447	0.578	0.052	1.47	-0.159	0.048
20.00	-0.2489	0.029944	-0.018621	0.010559	0.00376	-37.759	3.140	9.756	0.604	0.047	1.69	-0.123	0.053

TABLE 3.- Continued

CALCULATED CHARACTERISTICS OF A ROTOR HAVING RECTANGULAR BLADES WITH A LINEAR TWIST OF 0°

(d) $\frac{V}{\Omega R} = 0.40$; $M_{(1.0,90°)} = 0.7$ - Continued

$\theta_{.75R}$, deg	λ	$\frac{C'_L}{\sigma}$	$\frac{C'_D}{\sigma}$	$\frac{C_Q}{\sigma}$	$\frac{bC_{Q,D}}{\sigma}$	α_c, deg	a_0, deg	a_1, deg	a_2, deg	a_3, deg	b_1, deg	b_2, deg	b_3, deg
$\frac{C'_L}{\sigma} = 0.04$													
-4.00	0.0842	0.040076	0.010030	-0.002029	0.00110	12.913	1.603	-0.304	0.137	0.005	0.83	-0.003	0.004
-0.	0.0273	0.040074	0.005559	-0.000402	0.00089	4.642	1.846	1.572	0.253	0.021	1.00	-0.053	0.014
4.00	-0.0290	0.040030	0.001011	0.001396	0.00092	-3.444	2.130	3.534	0.376	0.037	1.18	-0.105	0.025
8.00	-0.0846	0.039997	-0.003643	0.003317	0.00111	-11.488	2.439	5.474	0.489	0.049	1.37	-0.141	0.039
12.00	-0.1392	0.039737	-0.008741	0.005533	0.00157	-19.626	2.783	7.284	0.579	0.055	1.57	-0.159	0.049
16.00	-0.1914	0.039972	-0.014753	0.008428	0.00267	-27.784	3.210	8.981	0.655	0.058	1.83	-0.143	0.061
20.00	-0.2405	0.039821	-0.022035	0.012418	0.00671	-36.039	3.669	10.556	0.720	0.056	2.20	-0.069	0.077
$\frac{C'_L}{\sigma} = 0.05$													
-4.00	0.0922	0.050452	0.014005	-0.003380	0.00123	14.266	2.206	0.188	0.217	0.014	1.15	-0.016	0.012
-0.	0.0349	0.050451	0.008341	-0.001286	0.00093	6.093	2.434	1.970	0.311	0.025	1.27	-0.069	0.015
4.00	-0.0222	0.050031	0.002454	0.000940	0.00099	-2.292	2.659	3.922	0.437	0.040	1.48	-0.108	0.031
8.00	-0.0779	0.049995	-0.003325	0.003320	0.00124	-10.326	2.975	5.875	0.555	0.054	1.67	-0.147	0.043
12.00	-0.1322	0.049714	-0.009454	0.006010	0.00198	-18.384	3.318	7.751	0.657	0.063	1.91	-0.153	0.058
16.00	-0.1836	0.049760	-0.016396	0.009561	0.00545	-26.336	3.722	9.635	0.768	0.070	2.29	-0.101	0.081
20.00	-0.2293	0.049670	-0.023773	0.014284	0.01270	-33.872	4.107	11.839	0.923	0.068	3.09	0.075	0.127
$\frac{C'_L}{\sigma} = 0.06$													
-4.00	0.1000	0.060320	0.018439	-0.004850	0.00140	15.604	2.799	0.669	0.290	0.021	1.43	-0.046	0.011
-0.	0.0419	0.059667	0.011348	-0.002237	0.00107	7.326	2.959	2.383	0.378	0.031	1.53	-0.085	0.017
4.00	-0.0152	0.060058	0.004487	0.000299	0.00111	-1.100	3.208	4.340	0.508	0.046	1.78	-0.119	0.035
8.00	-0.0710	0.059983	-0.002412	0.003150	0.00150	-9.143	3.510	6.303	0.630	0.062	1.99	-0.148	0.049
12.00	-0.1244	0.060039	-0.009527	0.006510	0.00407	-17.000	3.861	8.348	0.771	0.077	2.32	-0.132	0.070
16.00	-0.1725	0.059726	-0.016527	0.010834	0.01212	-24.361	4.156	10.821	0.989	0.088	3.15	0.049	0.136
20.00	-0.2110	0.059578	-0.022314	0.016619	0.02497	-30.577	4.396	13.984	1.176	0.010	4.87	0.372	0.215
$\frac{C'_L}{\sigma} = 0.07$													
-4.00	0.1083	0.069813	0.023481	-0.006467	0.00192	16.994	3.385	1.211	0.379	0.030	1.73	-0.067	0.014
-0.	0.0500	0.069530	0.015056	-0.003476	0.00165	8.474	3.527	3.011	0.500	0.045	1.89	-0.108	0.024
4.00	-0.0075	0.069831	0.007110	-0.000465	0.00134	0.174	3.756	4.866	0.611	0.059	2.10	-0.134	0.038
8.00	-0.0634	0.069890	-0.000873	0.002935	0.00290	-7.877	4.036	6.834	0.737	0.076	2.36	-0.139	0.056
12.00	-0.1124	0.069652	-0.007939	0.007280	0.01239	-15.038	4.259	9.618	1.045	0.107	3.27	0.055	0.141
16.00	-0.1500	0.069697	-0.012800	0.013218	0.02930	-20.699	4.453	13.280	1.311	0.008	5.20	0.389	0.241

TABLE 3. - Continued

CALCULATED CHARACTERISTICS OF A ROTOR HAVING RECTANGULAR BLADES WITH A LINEAR TWIST OF 0°

(d) $\frac{V}{\Omega R} = 0.40$; $M_{(1.0,90°)} = 0.7$ - Concluded

$\theta_{.75R}$, deg	λ	$\frac{C'_L}{\sigma}$	$\frac{C'_D}{\sigma}$	$\frac{C_Q}{\sigma}$	$\frac{bC_{Q,D}}{\sigma}$	α_c, deg	a_0, deg	a_1, deg	a_2, deg	a_3, deg	b_1, deg	b_2, deg	b_3, deg
$\frac{C'_L}{\sigma} = 0.075$													
-4.00	0.1130	0.074838	0.026607	-0.007373	0.00254	17.888	3.706	1.545	0.433	0.037	1.88	-0.077	0.018
-0.	0.0549	0.074758	0.017426	-0.004149	0.00258	9.274	3.841	3.382	0.576	0.056	2.07	-0.126	0.021
4.00	-0.0026	0.074542	0.008763	-0.000797	0.00351	0.959	4.014	5.317	0.720	0.078	2.33	-0.130	0.043
8.00	-0.0576	0.074511	0.000464	0.003057	0.00727	-6.947	4.238	7.473	0.900	0.106	2.78	-0.061	0.086
$\frac{C'_L}{\sigma} = 0.08$													
-4.00	0.1180	0.079608	0.029772	-0.008254	0.00348	18.735	4.016	1.928	0.502	0.047	2.06	-0.090	0.020
-0.	0.0610	0.079786	0.020128	-0.004689	0.00514	10.272	4.138	3.966	0.708	0.079	2.34	-0.122	0.031
4.00	0.0114	0.079520	0.012296	-0.000126	0.01509	3.062	4.231	7.036	1.120	0.126	3.30	0.055	0.135

TABLE 3.- Continued

CALCULATED CHARACTERISTICS OF A ROTOR HAVING RECTANGULAR BLADES WITH A LINEAR TWIST OF 0°

(e) $\frac{V}{\Omega R} = 0.40$; $M_{(1.0,90°)} = 0.8$

$\theta_{.75R}$, deg	λ	$\frac{C'_L}{\sigma}$	$\frac{C'_D}{\sigma}$	$\frac{C_Q}{\sigma}$	$\frac{bC_{Q,D}}{\sigma}$	α_c, deg	a_0, deg	a_1, deg	a_2, deg	a_3, deg	b_1, deg	b_2, deg	b_3, deg
$\frac{C'_L}{\sigma} = 0$													
-4.00	0.0564	0.000293	0.001071	0.001301	0.000088	8.114	-0.522	-1.986	-0.134	-0.019	-0.31	0.045	-0.017
-0.	0.	-0.000078	0.001029	0.001254	0.000084	-0.001	-0.238	0.009	-0.001	0.002	-0.11	-0.004	0.002
4.00	-0.0561	0.000120	0.001028	0.001320	0.000087	-8.077	0.068	1.997	0.123	0.018	0.09	-0.062	0.013
8.00	-0.1121	-0.000091	0.000764	0.001574	0.000104	-16.298	0.366	3.893	0.240	0.033	0.27	-0.109	0.024
12.00	-0.1671	0.000024	0.000057	0.002172	0.000133	-24.716	0.690	5.612	0.330	0.040	0.46	-0.142	0.030
16.00	-0.2210	-0.000490	-0.000870	0.003070	0.000182	-33.597	1.008	7.023	0.389	0.042	0.61	-0.147	0.036
20.00	-0.2728	-0.000009	-0.002626	0.004669	0.000253	-43.031	1.403	7.969	0.392	0.032	0.74	-0.136	0.030
$\frac{C'_L}{\sigma} = 0.01$													
-4.00	0.0630	0.010260	0.002473	0.000767	0.000091	9.263	0.025	-1.573	-0.063	-0.010	-0.02	0.035	-0.010
-0.	0.0065	0.010021	0.001333	0.001170	0.000084	1.109	0.296	0.390	0.060	0.007	0.17	-0.016	0.005
4.00	-0.0497	0.009780	0.000215	0.001653	0.000086	-6.973	0.592	2.398	0.195	0.027	0.37	-0.069	0.022
8.00	-0.1055	0.009947	-0.001176	0.002342	0.000101	-15.119	0.916	4.308	0.305	0.039	0.56	-0.122	0.028
12.00	-0.1606	0.009523	-0.002924	0.003340	0.000134	-23.524	1.228	6.032	0.391	0.044	0.74	-0.152	0.034
16.00	-0.2138	0.009666	-0.005448	0.004872	0.000192	-32.150	1.618	7.528	0.454	0.047	0.92	-0.157	0.040
20.00	-0.2653	0.009541	-0.008667	0.007035	0.000281	-41.315	2.027	8.590	0.464	0.039	1.06	-0.132	0.041
$\frac{C'_L}{\sigma} = 0.02$													
-4.00	0.0698	0.020380	0.004461	0.000035	0.000094	10.434	0.577	-1.161	0.004	-0.004	0.28	0.021	-0.006
-0.	0.0130	0.020077	0.002181	0.000876	0.000085	2.224	0.832	0.774	0.122	0.011	0.46	-0.029	0.007
4.00	-0.0432	0.019857	-0.000083	0.001813	0.000086	-5.848	1.130	2.791	0.258	0.032	0.66	-0.081	0.025
8.00	-0.0989	0.019960	-0.002548	0.002929	0.000102	-13.962	1.460	4.716	0.370	0.044	0.85	-0.134	0.032
12.00	-0.1539	0.019597	-0.005444	0.004378	0.000143	-22.278	1.791	6.476	0.457	0.050	1.04	-0.162	0.039
16.00	-0.2068	0.019808	-0.009232	0.006444	0.000215	-30.745	2.206	8.035	0.523	0.052	1.24	-0.162	0.046
20.00	-0.2574	0.019726	-0.014029	0.009314	0.000363	-39.598	2.647	9.243	0.538	0.043	1.43	-0.125	0.049
$\frac{C'_L}{\sigma} = 0.03$													
-4.00	0.0767	0.030499	0.007037	-0.000888	0.000100	11.637	1.140	-0.734	0.072	0.002	0.57	0.006	-0.002
-0.	0.0196	0.030164	0.003602	0.000384	0.000086	3.362	1.378	1.170	0.186	0.016	0.75	-0.045	0.009
4.00	-0.0367	0.029912	0.000185	0.001782	0.000088	-4.728	1.668	3.183	0.321	0.036	0.95	-0.095	0.027
8.00	-0.0924	0.029967	-0.003358	0.003331	0.000108	-12.819	2.002	5.122	0.435	0.050	1.15	-0.145	0.036
12.00	-0.1472	0.029667	-0.007378	0.005244	0.000160	-21.051	2.345	6.918	0.526	0.056	1.35	-0.166	0.046
16.00	-0.1997	0.029880	-0.012289	0.007845	0.000282	-29.359	2.772	8.560	0.597	0.058	1.58	-0.156	0.055
20.00	-0.2494	0.029862	-0.018455	0.011484	0.000525	-37.880	3.231	9.958	0.626	0.048	1.85	-0.102	0.062

TABLE 3. - Continued

CALCULATED CHARACTERISTICS OF A ROTOR HAVING RECTANGULAR BLADES WITH A LINEAR TWIST OF 0°

(e) $\frac{V}{\Omega R} = 0.40$; $M_{(1.0,90°)} = 0.8$ - Continued

$\theta_{.75R}$, deg	λ	$\frac{C'_L}{\sigma}$	$\frac{C'_D}{\sigma}$	$\frac{C_Q}{\sigma}$	$\frac{bC_{Q,D}}{\sigma}$	α_c, deg	a_0, deg	a_1, deg	a_2, deg	a_3, deg	b_1, deg	b_2, deg	b_3, deg
$\frac{C'_L}{\sigma} = 0.04$													
-4.00	0.0834	0.040050	0.010029	-0.001937	0.00108	12.806	1.678	-0.318	0.139	0.007	0.86	-0.009	0.002
-0.	0.0265	0.040279	0.005589	-0.000295	0.00089	4.526	1.935	1.579	0.253	0.021	1.04	-0.063	0.011
4.00	-0.0301	0.040066	0.001026	0.001550	0.00093	-3.597	2.215	3.574	0.385	0.041	1.25	-0.107	0.030
8.00	-0.0859	0.039974	-0.003630	0.003563	0.00121	-11.682	2.540	5.526	0.502	0.055	1.44	-0.153	0.041
12.00	-0.1405	0.039653	-0.008699	0.005943	0.00201	-19.831	2.885	7.374	0.598	0.062	1.67	-0.162	0.055
16.00	-0.1923	0.039853	-0.014646	0.009146	0.00415	-27.945	3.303	9.142	0.680	0.062	1.99	-0.127	0.073
20.00	-0.2405	0.039721	-0.021751	0.013511	0.00841	-36.081	3.742	10.828	0.742	0.053	2.41	-0.039	0.091
$\frac{C'_L}{\sigma} = 0.05$													
-4.00	0.0908	0.050084	0.013812	-0.003230	0.00119	14.086	2.259	0.142	0.211	0.014	1.15	-0.026	0.007
-0.	0.0335	0.050233	0.008158	-0.001154	0.00095	5.730	2.496	2.025	0.330	0.030	1.34	-0.076	0.019
4.00	-0.0234	0.050210	0.002454	0.001126	0.00103	-2.462	2.764	3.967	0.449	0.046	1.54	-0.120	0.032
8.00	-0.0793	0.049969	-0.003337	0.003624	0.00145	-10.536	3.076	5.943	0.572	0.062	1.76	-0.156	0.048
12.00	-0.1334	0.049607	-0.009417	0.006543	0.00295	-18.573	3.413	7.877	0.683	0.069	2.04	-0.147	0.069
16.00	-0.1841	0.049621	-0.016211	0.010441	0.00714	-26.435	3.800	9.855	0.796	0.071	2.49	-0.074	0.098
20.00	-0.2286	0.049564	-0.023266	0.015516	0.01506	-33.794	4.161	12.177	0.941	0.059	3.35	0.107	0.143
$\frac{C'_L}{\sigma} = 0.06$													
-4.00	0.0985	0.060115	0.018292	-0.004716	0.00136	15.435	2.856	0.643	0.290	0.022	1.46	-0.048	0.012
-0.	0.0409	0.060280	0.011338	-0.002189	0.00109	6.979	3.069	2.493	0.410	0.038	1.65	-0.096	0.022
4.00	-0.0165	0.060390	0.004484	0.000517	0.00122	-1.281	3.324	4.396	0.522	0.053	1.85	-0.134	0.036
8.00	-0.0723	0.059967	-0.002435	0.003540	0.00212	-9.346	3.606	6.403	0.654	0.070	2.10	-0.149	0.057
12.00	-0.1251	0.059981	-0.009447	0.007231	0.00572	-17.125	3.949	8.542	0.807	0.083	2.52	-0.112	0.087
16.00	-0.1719	0.059587	-0.016084	0.011897	0.01470	-24.295	4.211	11.138	1.022	0.081	3.46	0.088	0.158
20.00	-0.2101	0.059607	-0.021742	0.017958	0.02742	-30.441	4.462	14.254	1.175	0.000	5.09	0.369	0.222
$\frac{C'_L}{\sigma} = 0.07$													
-4.00	0.1071	0.070309	0.023587	-0.006399	0.00195	16.863	3.489	1.236	0.390	0.034	1.78	-0.076	0.015
-0.	0.0489	0.070146	0.015415	-0.003359	0.00156	8.603	3.657	2.957	0.486	0.048	1.92	-0.107	0.026
4.00	-0.0087	0.070095	0.007142	-0.000211	0.00173	0.004	3.856	4.971	0.642	0.070	2.22	-0.129	0.050
8.00	-0.0644	0.069826	-0.000861	0.003486	0.00432	-8.014	4.110	7.020	0.780	0.085	2.56	-0.111	0.079
12.00	-0.1112	0.069579	-0.007413	0.008274	0.01579	-14.878	4.310	9.990	1.103	0.101	3.66	0.110	0.173
16.00	-0.1495	0.069766	-0.012438	0.014389	0.03016	-20.641	4.530	13.445	1.310	0.002	5.38	0.371	0.251

TABLE 3.- Continued

CALCULATED CHARACTERISTICS OF A ROTOR HAVING RECTANGULAR BLADES WITH A LINEAR TWIST OF 0°

(e) $\frac{V}{\Omega R} = 0.40$; $M_{(1.0,90°)} = 0.8$ - Concluded

$\theta_{.75R}$, deg	λ	$\frac{C'_L}{\sigma}$	$\frac{C'_D}{\sigma}$	$\frac{C_Q}{\sigma}$	$\frac{bC_{Q,D}}{\sigma}$	α_c, deg	a_0, deg	a_1, deg	a_2, deg	a_3, deg	b_1, deg	b_2, deg	b_3, deg
$\frac{C'_L}{\sigma} = 0.075$													
-4.00	0.1115	0.074911	0.026297	-0.007190	0.00263	17.590	3.780	1.568	0.449	0.043	1.94	-0.090	0.018
-0.	0.0535	0.074867	0.017334	-0.003943	0.00286	9.075	3.926	3.445	0.601	0.066	2.16	-0.128	0.028
4.00	-0.0037	0.074714	0.008723	-0.000374	0.00465	0.814	4.115	5.450	0.761	0.091	2.47	-0.133	0.049
$\frac{C'_L}{\sigma} = 0.08$													
-4.00	0.1167	0.079717	0.029597	-0.008028	0.00379	18.555	4.096	1.989	0.528	0.056	2.12	-0.100	0.022
-0.	0.0601	0.079728	0.019962	-0.004280	0.00632	10.138	4.209	4.109	0.757	0.093	2.48	-0.116	0.043
4.00	0.0117	0.079621	0.012442	0.000653	0.01748	3.123	4.314	7.237	1.156	0.120	3.55	0.059	0.153

TABLE 3. - Continued

CALCULATED CHARACTERISTICS OF A ROTOR HAVING RECTANGULAR BLADES WITH A LINEAR TWIST OF 0°

(f) $\frac{V}{\Omega R} = 0.40$; $M_{(1.0,90°)} = 0.9$

$\theta_{.75R}$, deg	λ	$\frac{C'_L}{\sigma}$	$\frac{C'_D}{\sigma}$	$\frac{C_Q}{\sigma}$	$\frac{bC_{Q,D}}{\sigma}$	α_c, deg	a_0, deg	a_1, deg	a_2, deg	a_3, deg	b_1, deg	b_2, deg	b_3, deg
$\frac{C'_L}{\sigma} = 0$													
-4.00	0.0566	0.000227	0.001886	0.002141	0.00088	8.129	-0.479	-1.984	-0.140	-0.023	-0.29	0.058	-0.019
-0.	0.	-0.000151	0.001792	0.002029	0.00084	-0.003	-0.195	0.012	0.001	0.003	-0.08	0.002	0.005
4.00	-0.0563	0.000069	0.001848	0.002153	0.00087	-8.087	0.125	2.014	0.140	0.026	0.13	-0.065	0.021
8.00	-0.1126	-0.000056	0.001605	0.002453	0.00105	-16.340	0.424	3.893	0.254	0.040	0.32	-0.127	0.029
12.00	-0.1678	0.000206	0.000881	0.003151	0.00138	-24.773	0.759	5.627	0.350	0.049	0.52	-0.164	0.038
16.00	-0.2221	-0.000490	0.000066	0.004159	0.00210	-33.701	1.069	7.043	0.410	0.051	0.67	-0.167	0.044
20.00	-0.2742	-0.000036	-0.001619	0.005990	0.00325	-43.184	1.451	8.008	0.407	0.036	0.79	-0.140	0.038
$\frac{C'_L}{\sigma} = 0.01$													
-4.00	0.0630	0.010167	0.003261	0.001587	0.00091	9.233	0.068	-1.573	-0.068	-0.013	-0.00	0.043	-0.012
-0.	0.0062	0.009973	0.002130	0.001987	0.00084	1.071	0.341	0.399	0.065	0.008	0.21	-0.012	0.009
4.00	-0.0502	0.010027	0.001028	0.002527	0.00086	-7.019	0.656	2.392	0.198	0.028	0.41	-0.086	0.020
8.00	-0.1062	0.009964	-0.000316	0.003278	0.00103	-15.200	0.976	4.311	0.322	0.047	0.62	-0.142	0.034
12.00	-0.1616	0.009557	-0.002024	0.004393	0.00149	-23.624	1.292	6.042	0.413	0.055	0.80	-0.175	0.043
16.00	-0.2151	0.009636	-0.004463	0.006108	0.00247	-32.273	1.674	7.552	0.477	0.056	0.99	-0.173	0.051
20.00	-0.2662	0.009921	-0.007848	0.008666	0.00394	-41.368	2.095	8.679	0.486	0.044	1.15	-0.132	0.052
$\frac{C'_L}{\sigma} = 0.02$													
-4.00	0.0694	0.020288	0.005220	0.000837	0.00094	10.365	0.624	-1.157	0.002	-0.006	0.30	0.026	-0.008
-0.	0.0125	0.019991	0.002959	0.001706	0.00085	2.143	0.877	0.785	0.128	0.013	0.50	-0.027	0.012
4.00	-0.0438	0.020249	0.000770	0.002732	0.00087	-5.887	1.205	2.823	0.275	0.038	0.73	-0.094	0.031
8.00	-0.0999	0.019947	-0.001687	0.003933	0.00109	-14.084	1.522	4.721	0.390	0.054	0.91	-0.157	0.039
12.00	-0.1551	0.019588	-0.004519	0.005543	0.00178	-22.408	1.852	6.490	0.482	0.061	1.11	-0.184	0.050
16.00	-0.2080	0.019748	-0.008210	0.007856	0.00305	-30.871	2.254	8.071	0.548	0.061	1.33	-0.170	0.061
20.00	-0.2584	0.019656	-0.012883	0.011059	0.00514	-39.675	2.673	9.338	0.561	0.047	1.52	-0.118	0.064

TABLE 3. - Continued

CALCULATED CHARACTERISTICS OF A ROTOR HAVING RECTANGULAR BLADES WITH A LINEAR TWIST OF 0°

(f) $\frac{V}{\Omega R} = 0.40$; $M_{(1.0, 90°)} = 0.9$ - Continued

$\theta_{.75R}$, deg	λ	$\frac{C'_L}{\sigma}$	$\frac{C'_D}{\sigma}$	$\frac{C_Q}{\sigma}$	$\frac{bC_{Q,D}}{\sigma}$	α_c, deg	a_0, deg	a_1, deg	a_2, deg	a_3, deg	b_1, deg	b_2, deg	b_3, deg
$\frac{C'_L}{\sigma} = 0.03$													
-4.00	0.0761	0.030413	0.007759	-0.000099	0.00099	11.526	1.189	-0.728	0.072	0.001	0.59	0.007	-0.003
-0.	0.0189	0.030047	0.004351	0.001233	0.00086	3.239	1.434	1.185	0.197	0.021	0.79	-0.051	0.013
4.00	-0.0377	0.029899	0.000985	0.002720	0.00089	-4.859	1.721	3.196	0.337	0.042	1.01	-0.104	0.036
8.00	-0.0944	0.029726	-0.002211	0.004487	0.00127	-12.811	2.039	5.225	0.479	0.064	1.25	-0.166	0.054
12.00	-0.1482	0.030122	-0.006505	0.0068	0.00229	-21.132	2.433	6.967	0.558	0.068	1.45	-0.186	0.059
16.00	-0.2042	0.030132	-0.0013	0.0099	0.00463	-28.228	2.765	9.106	0.710	0.076	1.87	-0.168	0.094
20.00	-0.2605	0.029665	-0.0173	0.0140	0.00912	-34.529	3.043	11.425	0.873	0.075	2.46	-0.096	0.140
$\frac{C'_L}{\sigma} = 0.04$													
-4.00	0.0826	0.040014	0.010718	-0.001158	0.00107	12.655	1.732	-0.308	0.141	0.008	0.88	-0.010	0.001
-0.	0.0254	0.040135	0.006302	0.000575	0.00089	4.363	1.991	1.601	0.268	0.028	1.08	-0.069	0.017
4.00	-0.0313	0.040056	0.001796	0.002553	0.00098	-3.772	2.280	3.585	0.402	0.048	1.30	-0.130	0.034
8.00	-0.0875	0.040347	-0.002500	0.004808	0.00166	-11.670	2.610	5.671	0.556	0.072	1.59	-0.168	0.063
12.00	-0.1414	0.040099	-0.007778	0.007445	0.00304	-19.904	2.966	7.449	0.637	0.074	1.80	-0.175	0.072
16.00	-0.1931	0.039742	-0.013498	0.010957	0.00600	-28.010	3.325	9.246	0.716	0.069	2.14	-0.120	0.096
20.00	-0.2407	0.039676	-0.020337	0.015636	0.01038	-36.034	3.737	10.999	0.769	0.054	2.56	-0.028	0.112
$\frac{C'_L}{\sigma} = 0.05$													
-4.00	0.0896	0.050059	0.014440	-0.002454	0.00117	13.888	2.316	0.154	0.215	0.016	1.19	-0.031	0.007
-0.	0.0322	0.050259	0.008838	-0.000263	0.00096	5.531	2.561	2.041	0.342	0.036	1.39	-0.089	0.022
4.00	-0.0249	0.050195	0.003196	0.002195	0.00118	-2.664	2.832	3.994	0.472	0.056	1.60	-0.141	0.039
8.00	-0.0807	0.049932	-0.002492	0.004928	0.00218	-10.717	3.134	5.989	0.604	0.074	1.86	-0.171	0.062
12.00	-0.1341	0.050033	-0.008421	0.008243	0.00464	-18.613	3.482	7.997	0.728	0.081	2.21	-0.150	0.090
16.00	-0.1844	0.049538	-0.014958	0.012443	0.00918	-26.442	3.811	9.999	0.832	0.075	2.67	-0.063	0.124
20.00	-0.2287	0.049599	-0.021773	0.017742	0.01653	-33.731	4.157	12.302	0.951	0.056	3.47	0.098	0.161

TABLE 3. - Continued

CALCULATED CHARACTERISTICS OF A ROTOR HAVING RECTANGULAR BLADES WITH A LINEAR TWIST OF 0°

(f) $\frac{V}{\Omega R} = 0.40$; $M_{(1.0,90°)} = 0.9$ - Concluded

$\theta_{.75R}$, deg	λ	$\frac{C'_L}{\sigma}$	$\frac{C'_D}{\sigma}$	$\frac{C_Q}{\sigma}$	$\frac{bC_{Q,D}}{\sigma}$	α_c, deg	a_0, deg	a_1, deg	a_2, deg	a_3, deg	b_1, deg	b_2, deg	b_3, deg
$\frac{C'_L}{\sigma} = 0.06$													
-4.00	0.0971	0.060129	0.018837	-0.003923	0.00134	15.196	2.917	0.661	0.298	0.025	1.50	-0.056	0.012
-0.	0.0393	0.060337	0.011980	-0.001268	0.00114	6.744	3.138	2.517	0.426	0.045	1.70	-0.111	0.026
4.00	-0.0180	0.060368	0.005213	0.001667	0.00162	-1.497	3.388	4.448	0.553	0.064	1.94	-0.147	0.047
8.00	-0.0736	0.060321	-0.001310	0.005055	0.00348	-9.394	3.667	6.595	0.718	0.085	2.31	-0.151	0.083
12.00	-0.1257	0.059761	-0.008349	0.009089	0.00770	-17.181	3.956	8.693	0.851	0.089	2.74	-0.088	0.121
16.00	-0.1720	0.059522	-0.014705	0.014054	0.01637	-24.261	4.218	11.276	1.043	0.080	3.63	0.086	0.181
20.00	-0.2104	0.059655	-0.020288	0.0241	0.02884	-30.437	4.466	14.281	1.171	0.004	5.14	0.336	0.233
$\frac{C'_L}{\sigma} = 0.07$													
-4.00	0.1055	0.070194	0.024059	-0.005546	0.00204	16.653	3.543	1.277	0.406	0.040	1.83	-0.082	0.019
-0.	0.0475	0.070297	0.015838	-0.002392	0.00200	8.111	3.718	3.142	0.552	0.064	2.06	-0.129	0.033
4.00	-0.0101	0.070140	0.007853	0.001093	0.00270	-0.199	3.911	5.059	0.678	0.079	2.35	-0.139	0.061
8.00	-0.0649	0.069759	0.000089	0.005217	0.00632	-8.086	4.145	7.203	0.838	0.096	2.78	-0.096	0.108
12.00	-0.1103	0.069761	-0.005940	0.010453	0.01846	-14.718	4.346	10.262	1.150	0.099	3.93	0.113	0.195
$\frac{C'_L}{\sigma} = 0.075$													
-4.00	0.1103	0.075153	0.027006	-0.006361	0.00296	17.473	3.857	1.672	0.481	0.053	2.02	-0.095	0.025
-0.	0.0524	0.075410	0.018361	-0.0033	0.00306	9.266	4.030	3.437	0.599	0.071	2.21	-0.126	0.036
4.00	-0.0044	0.075378	0.009388	0.000773	0.00421	0.821	4.218	5.282	0.716	0.085	2.49	-0.119	0.062
8.00	-0.0495	0.074611	0.003480	0.006532	0.01987	-5.779	4.298	8.959	1.218	0.110	3.99	0.116	0.195

TABLE 3.- Continued

CALCULATED CHARACTERISTICS OF A ROTOR HAVING RECTANGULAR BLADES WITH A LINEAR TWIST OF 0°

(g) $\frac{V}{\Omega R} = 0.50$; $M_{(1.0,90°)} = 0.8$

$\theta_{.75R}$, deg	λ	$\frac{C'_L}{\sigma}$	$\frac{C'_D}{\sigma}$	$\frac{C_Q}{\sigma}$	$\frac{bC_{Q,D}}{\sigma}$	α_c, deg	a_0, deg	a_1, deg	a_2, deg	a_3, deg	b_1, deg	b_2, deg	b_3, deg
$\frac{C'_L}{\sigma} = 0$													
-4.00	0.0606	0.000301	0.001429	0.001393	0.00084	6.975	-0.535	-2.351	-0.188	-0.027	-0.40	0.064	-0.026
-0.	0.	-0.000128	0.001327	0.001356	0.00079	-0.001	-0.278	0.016	-0.001	0.004	-0.15	-0.005	0.003
4.00	-0.0604	-0.000028	0.001405	0.001405	0.00083	-6.948	0.010	2.380	0.179	0.031	0.09	-0.088	0.022
8.00	-0.1292	0.000062	0.001286	0.001662	0.00097	-13.935	0.306	4.696	0.354	0.056	0.36	-0.157	0.042
12.00	-0.1793	-0.000312	0.000996	0.002159	0.00124	-21.084	0.591	6.868	0.506	0.074	0.61	-0.204	0.058
16.00	-0.2366	0.000162	0.000158	0.003143	0.00174	-28.305	0.939	8.894	0.633	0.081	0.88	-0.233	0.069
20.00	-0.2922	0.000183	-0.001070	0.004566	0.00261	-35.825	1.297	10.595	0.705	0.076	1.13	-0.230	0.072
$\frac{C'_L}{\sigma} = 0.01$													
-4.00	0.0670	0.009967	0.002500	0.000895	0.00087	7.818	-0.026	-1.873	-0.092	-0.018	-0.06	0.047	-0.018
-0.	0.0064	0.010017	0.001610	0.001253	0.00080	0.851	0.244	0.483	0.091	0.012	0.20	-0.019	0.012
4.00	-0.0540	0.009780	0.000797	0.001705	0.00082	-6.095	0.529	2.859	0.275	0.041	0.44	-0.106	0.029
8.00	-0.1137	0.010108	-0.000141	0.002342	0.00096	-13.042	0.843	5.194	0.451	0.066	0.71	-0.174	0.049
12.00	-0.1727	0.009808	-0.001317	0.003250	0.00131	-20.143	1.144	7.386	0.601	0.083	0.97	-0.221	0.066
16.00	-0.2299	0.010200	-0.003039	0.004663	0.00201	-27.292	1.505	9.446	0.727	0.089	1.27	-0.236	0.080
20.00	-0.2851	0.010287	-0.005416	0.006727	0.00344	-34.669	1.889	11.226	0.802	0.082	1.57	-0.216	0.087
$\frac{C'_L}{\sigma} = 0.02$													
-4.00	0.0736	0.019986	0.004695	0.000168	0.00091	8.703	0.506	-1.374	0.008	-0.008	0.30	0.029	-0.009
-0.	0.0129	0.020078	0.002368	0.000912	0.00081	1.708	0.766	0.958	0.185	0.022	0.56	-0.035	0.020
4.00	-0.0474	0.019856	0.000683	0.001783	0.00083	-5.220	1.063	3.352	0.375	0.051	0.80	-0.125	0.036
8.00	-0.1072	0.020126	-0.001058	0.002894	0.00102	-12.163	1.375	5.685	0.548	0.076	1.07	-0.191	0.057
12.00	-0.1662	0.019867	-0.003109	0.004138	0.00149	-19.220	1.688	7.896	0.697	0.092	1.34	-0.231	0.076
16.00	-0.2231	0.020231	-0.005686	0.006019	0.00266	-26.284	2.058	10.010	0.825	0.097	1.68	-0.229	0.096
20.00	-0.2777	0.020178	-0.009005	0.008698	0.00535	-33.504	2.429	11.909	0.909	0.086	2.10	-0.164	0.118

TABLE 3. - Continued

CALCULATED CHARACTERISTICS OF A ROTOR HAVING RECTANGULAR BLADES WITH A LINEAR TWIST OF 0°

(g) $\frac{V}{\Omega R} = 0.50$; $M_{(1.0,90°)} = 0.8$ - Continued

$\theta_{.75R}$, deg	λ	$\frac{C'_L}{\sigma}$	$\frac{C'_D}{\sigma}$	$\frac{C_Q}{\sigma}$	$\frac{bC_{Q,D}}{\sigma}$	α_c, deg	a_0, deg	a_1, deg	a_2, deg	a_3, deg	b_1, deg	b_2, deg	b_3, deg
$\frac{C'_L}{\sigma} = 0.03$													
-4.00	0.0804	0.030010	0.006169	-0.000755	0.00099	9.617	1.046	-0.846	0.113	0.004	0.66	0.007	-0.001
-0.	0.0195	0.030190	0.003634	0.000346	0.00083	2.590	1.301	1.457	0.286	0.032	0.91	-0.056	0.027
4.00	-0.0408	0.029947	0.001098	0.001622	0.00088	-4.345	1.599	3.845	0.476	0.062	1.16	-0.144	0.043
8.00	-0.1008	0.030129	-0.001507	0.003078	0.00115	-11.294	1.916	6.167	0.645	0.088	1.42	-0.212	0.062
12.00	-0.1596	0.029824	-0.004358	0.004824	0.00191	-18.297	2.222	8.417	0.798	0.102	1.73	-0.232	0.089
16.00	-0.2160	0.030140	-0.007800	0.007299	0.00417	-25.261	2.586	10.609	0.934	0.105	2.15	-0.198	0.120
20.00	-0.2693	0.029968	-0.011783	0.010578	0.00924	-32.238	2.933	12.725	1.043	0.092	2.77	-0.071	0.160
$\frac{C'_L}{\sigma} = 0.04$													
-4.00	0.0874	0.040051	0.008748	-0.001875	0.00109	10.557	1.591	-0.293	0.223	0.016	1.03	-0.018	0.007
-0.	0.0265	0.040330	0.005408	-0.000426	0.00090	3.505	1.850	1.992	0.396	0.044	1.28	-0.084	0.032
4.00	-0.0343	0.040054	0.002049	0.001223	0.00098	-3.474	2.136	4.329	0.574	0.072	1.53	-0.160	0.050
8.00	-0.0943	0.040068	-0.001457	0.003132	0.00138	-10.422	2.432	6.660	0.743	0.096	1.80	-0.213	0.075
12.00	-0.1528	0.039630	-0.005120	0.005407	0.00279	-17.359	2.736	8.969	0.908	0.112	2.17	-0.213	0.109
16.00	-0.2080	0.039631	-0.009160	0.008483	0.00826	-24.147	3.056	11.341	1.077	0.115	2.78	-0.109	0.163
20.00	-0.2586	0.039756	-0.013345	0.012453	0.01610	-30.660	3.358	13.840	1.219	0.080	3.81	0.120	0.229
$\frac{C'_L}{\sigma} = 0.05$													
-4.00	0.0948	0.050145	0.011885	-0.003200	0.00127	11.538	2.150	0.292	0.339	0.030	1.40	-0.042	0.017
-0.	0.0337	0.050435	0.007690	-0.001385	0.00106	4.457	2.407	2.573	0.517	0.058	1.65	-0.118	0.036
4.00	-0.0275	0.050004	0.003460	0.000644	0.00117	-2.587	2.666	4.850	0.684	0.086	1.90	-0.177	0.058
8.00	-0.0876	0.049950	-0.000915	0.003047	0.00199	-9.520	2.949	7.192	0.856	0.110	2.22	-0.206	0.091
12.00	-0.1445	0.049760	-0.005266	0.006067	0.00712	-16.227	3.231	9.736	1.077	0.131	2.80	-0.132	0.153
16.00	-0.1966	0.049564	-0.009316	0.009874	0.01644	-22.571	3.470	12.499	1.290	0.107	3.88	0.103	0.247
20.00	-0.2439	0.049627	-0.013207	0.014587	0.02639	-28.581	3.720	15.313	1.394	0.015	5.34	0.380	0.303

TABLE 3. - Continued

CALCULATED CHARACTERISTICS OF A ROTOR HAVING RECTANGULAR BLADES WITH A LINEAR TWIST OF 0°

(g) $\frac{V}{\Omega R} = 0.50$; $M_{(1.0,90°)} = 0.8$ - Concluded

$\theta_{.75R}$, deg	λ	$\frac{C'_L}{\sigma}$	$\frac{C'_D}{\sigma}$	$\frac{C_Q}{\sigma}$	$\frac{bC_{Q,D}}{\sigma}$	α_c, deg	a_0, deg	a_1, deg	a_2, deg	a_3, deg	b_1, deg	b_2, deg	b_3, deg
$\frac{C'_L}{\sigma} = 0.06$													
-4.00	0.1027	0.060250	0.015613	-0.004701	0.00165	12.599	2.718	0.971	0.479	0.049	1.79	-0.071	0.029
-0.	0.0419	0.060343	0.010609	-0.002503	0.00180	5.637	2.965	3.237	0.662	0.081	2.03	-0.135	0.048
4.00	-0.0191	0.059648	0.005361	0.000103	0.00366	-1.511	3.164	5.680	0.900	0.124	2.40	-0.169	0.079
8.00	-0.0778	0.059607	0.000410	0.003233	0.00832	-8.273	3.395	8.200	1.122	0.152	2.98	-0.090	0.152
12.00	-0.1295	0.059581	-0.003582	0.007281	0.01982	-14.323	3.589	11.295	1.401	0.119	4.24	0.172	0.277
$\frac{C'_L}{\sigma} = 0.064$													
-4.00	0.1063	0.064291	0.017277	-0.005315	0.00215	13.063	2.948	1.297	0.550	0.060	1.96	-0.084	0.034
-0.	0.0450	0.063544	0.011572	-0.002800	0.00317	5.914	3.126	3.645	0.775	0.101	2.24	-0.147	0.054
4.00	-0.0129	0.063755	0.006508	0.000254	0.00927	-0.751	3.351	6.421	1.101	0.156	2.86	-0.107	0.120
8.00	-0.0673	0.063530	0.002109	0.003994	0.01874	-7.010	3.512	9.420	1.392	0.141	3.93	0.104	0.249
12.00	-0.1207	0.063702	-0.002238	0.008140	0.02642	-13.243	3.753	12.151	1.527	0.073	5.01	0.276	0.316
$\frac{C'_L}{\sigma} = 0.068$													
-4.00	0.1101	0.068296	0.019044	-0.005913	0.00299	13.561	3.176	1.668	0.633	0.074	2.15	-0.094	0.042
-0.	0.0502	0.067729	0.013033	-0.003002	0.00634	6.559	3.349	4.232	0.928	0.129	2.54	-0.142	0.070
4.00	-0.0057	0.067522	0.007930	0.0003	0.01493	0.118	3.497	7.231	1.275	0.156	3.43	0.001	0.192
8.00	-0.0592	0.067609	0.003546	0.004640	0.02425	-6.030	3.709	10.221	1.505	0.104	4.52	0.163	0.292
$\frac{C'_L}{\sigma} = 0.07$													
-4.00	0.1128	0.070240	0.019538	-0.006045	0.00418	13.495	3.266	1.993	0.736	0.094	2.32	-0.109	0.049
-0.	0.0534	0.069754	0.013866	-0.003020	0.00846	6.947	3.447	4.598	1.017	0.141	2.75	-0.116	0.093
4.00	-0.0018	0.069751	0.008773	0.000768	0.01740	0.593	3.610	7.631	1.342	0.146	3.69	0.027	0.216
8.00	-0.0554	0.069663	0.004270	0.004918	0.02645	-5.576	3.806	10.571	1.543	0.085	4.78	0.184	0.312

TABLE 3. - Continued

CALCULATED CHARACTERISTICS OF A ROTOR HAVING RECTANGULAR BLADES WITH A LINEAR TWIST OF 0°

(h) $\frac{V}{\Omega R} = 0.50$; $M_{(1.0,90°)} = 0.9$

$\theta_{.75R}$, deg	λ	$\frac{C'_L}{\sigma}$	$\frac{C'_D}{\sigma}$	$\frac{C_Q}{\sigma}$	$\frac{bC_{Q,D}}{\sigma}$	α_c, deg	a_0, deg	a_1, deg	a_2, deg	a_3, deg	b_1, deg	b_2, deg	b_3, deg
$\frac{C'_L}{\sigma} = 0$													
-4.00	0.0608	0.000324	0.002356	0.002323	0.00084	6.994	-0.480	-2.346	-0.193	-0.033	-0.38	0.076	-0.028
-0.	0.	-0.000010	0.002198	0.002228	0.00079	-0.000	-0.214	0.005	-0.005	0.001	-0.13	-0.010	-0.002
4.00	-0.0605	0.000046	0.002325	0.002339	0.00083	-6.960	0.073	2.377	0.187	0.036	0.15	-0.095	0.025
8.00	-0.1206	0.000146	0.002231	0.002649	0.00098	-13.968	0.384	4.686	0.369	0.067	0.41	-0.182	0.044
12.00	-0.1798	-0.000185	0.001956	0.003219	0.00132	-21.133	0.664	6.858	0.526	0.086	0.69	-0.230	0.066
16.00	-0.2373	0.000156	0.001209	0.004317	0.00208	-28.384	1.002	8.877	0.655	0.094	0.97	-0.258	0.080
20.00	-0.3000	-0.000217	0.001431	0.006243	0.00377	-34.349	1.271	11.248	0.842	0.105	1.40	-0.263	0.118
$\frac{C'_L}{\sigma} = 0.01$													
-4.00	0.0671	0.010347	0.003463	0.001783	0.00086	7.847	0.053	-1.848	-0.091	-0.021	-0.02	0.053	-0.021
-0.	0.0061	0.009960	0.002509	0.002170	0.00080	0.814	0.299	0.467	0.087	0.011	0.23	-0.025	0.008
4.00	-0.0544	0.009831	0.001727	0.002658	0.00082	-6.134	0.594	2.856	0.285	0.047	0.50	-0.117	0.032
8.00	-0.1143	0.010163	0.000820	0.003372	0.00099	-13.104	0.921	5.182	0.467	0.078	0.77	-0.201	0.052
12.00	-0.1734	0.009886	-0.000324	0.004385	0.00151	-20.217	1.214	7.376	0.623	0.097	1.05	-0.246	0.076
16.00	-0.2306	0.010176	-0.001955	0.005968	0.00257	-27.382	1.563	9.433	0.751	0.102	1.38	-0.255	0.096
20.00	-0.2856	0.010147	-0.004205	0.008236	0.00471	-34.749	1.916	11.234	0.826	0.090	1.72	-0.208	0.112
$\frac{C'_L}{\sigma} = 0.02$													
-4.00	0.0733	0.019958	0.004994	0.001075	0.00090	8.667	0.564	-1.369	0.006	-0.010	0.33	0.034	-0.012
-0.	0.0123	0.019977	0.003251	0.001844	0.00081	1.642	0.832	0.944	0.186	0.023	0.58	-0.050	0.014
4.00	-0.0480	0.019880	0.001610	0.002761	0.00083	-5.287	1.129	3.350	0.387	0.059	0.86	-0.140	0.040
8.00	-0.1080	0.020162	-0.000091	0.003885	0.00111	-12.250	1.455	5.676	0.567	0.090	1.14	-0.221	0.061
12.00	-0.1670	0.019877	-0.002092	0.005363	0.00185	-19.314	1.753	7.889	0.720	0.106	1.44	-0.253	0.088
16.00	-0.2237	0.020177	-0.004570	0.007483	0.00371	-26.371	2.108	10.006	0.851	0.108	1.82	-0.238	0.116
20.00	-0.2781	0.020138	-0.007746	0.010418	0.00693	-33.561	2.461	11.921	0.932	0.093	2.26	-0.158	0.142

TABLE 3. - Continued

CALCULATED CHARACTERISTICS OF A ROTOR HAVING RECTANGULAR BLADES WITH A LINEAR TWIST OF 0°

(h) $\frac{V}{\Omega R} = 0.50$; $M_{(1.0,90°)} = 0.9$ - Continued

$\theta_{.75R}$, deg	λ	$\frac{C'_L}{\sigma}$	$\frac{C'_D}{\sigma}$	$\frac{C_Q}{\sigma}$	$\frac{bC_{Q,D}}{\sigma}$	α_c, deg	a_0, deg	a_1, deg	a_2, deg	a_3, deg	b_1, deg	b_2, deg	b_3, deg
$\frac{C'_L}{\sigma} = 0.03$													
-4.00	0.0799	0.029966	0.007040	0.000142	0.00098	9.550	1.104	-0.843	0.112	0.003	0.69	0.008	-0.004
-0.	0.0188	0.030087	0.004493	0.001295	0.00083	2.497	1.370	1.445	0.288	0.035	0.94	-0.075	0.021
4.00	-0.0417	0.029943	0.002011	0.002637	0.00090	-4.440	1.666	3.844	0.489	0.071	1.23	-0.161	0.047
8.00	-0.1018	0.030108	-0.000547	0.004213	0.00135	-11.402	1.973	6.165	0.664	0.099	1.51	-0.227	0.074
12.00	-0.1605	0.029767	-0.003325	0.006166	0.00260	-18.401	2.279	8.419	0.823	0.115	1.85	-0.246	0.106
16.00	-0.2166	0.030074	-0.006635	0.008933	0.00577	-25.336	2.627	10.619	0.960	0.114	2.32	-0.196	0.144
20.00	-0.2696	0.029956	-0.010446	0.012471	0.01057	-32.279	2.959	12.731	1.058	0.094	2.93	-0.068	0.183
$\frac{C'_L}{\sigma} = 0.04$													
-4.00	0.0866	0.040003	0.009590	-0.000989	0.00107	10.460	1.652	-0.294	0.223	0.016	1.06	-0.019	0.005
-0.	0.0255	0.040264	0.006248	0.000536	0.00090	3.389	1.921	1.983	0.400	0.049	1.32	-0.102	0.029
4.00	-0.0353	0.040034	0.002940	0.002290	0.00106	-3.596	2.212	4.329	0.589	0.083	1.59	-0.186	0.052
8.00	-0.0954	0.040038	-0.000499	0.004359	0.00180	-10.541	2.497	6.668	0.767	0.110	1.91	-0.230	0.088
12.00	-0.1536	0.039508	-0.004066	0.006902	0.00418	-17.457	2.783	8.988	0.936	0.124	2.32	-0.215	0.132
16.00	-0.2083	0.040004	-0.007941	0.010369	0.00979	-24.136	3.113	11.401	1.105	0.119	3.00	-0.104	0.188
20.00	-0.2589	0.039767	-0.011914	0.014516	0.01746	-30.694	3.381	13.828	1.228	0.081	3.95	0.110	0.247
$\frac{C'_L}{\sigma} = 0.05$													
-4.00	0.0937	0.050093	0.012692	-0.002324	0.00124	11.413	2.212	0.291	0.341	0.032	1.44	-0.046	0.016
-0.	0.0326	0.050483	0.008537	-0.000423	0.00108	4.324	2.481	2.571	0.525	0.065	1.70	-0.134	0.036
4.00	-0.0290	0.049602	0.004249	0.001776	0.00137	-2.761	2.716	4.822	0.693	0.095	1.96	-0.194	0.064
8.00	-0.0886	0.049919	0.000039	0.004411	0.00294	-9.634	3.010	7.224	0.885	0.123	2.36	-0.212	0.110
12.00	-0.1452	0.049580	-0.004160	0.007765	0.00857	-16.309	3.269	9.769	1.102	0.137	2.99	-0.125	0.179
16.00	-0.1967	0.049869	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	12.541	1.308	0.108	4.07	0.089	0.261
20.00	-0.2444	0.049688	-0.011734	0.016800	0.02742	-28.640	3.749	15.261	1.393	0.020	5.43	0.352	0.315

TABLE 3.- Continued

CALCULATED CHARACTERISTICS OF A ROTOR HAVING RECTANGULAR BLADES WITH A LINEAR TWIST OF 0°

(h) $\frac{V}{\Omega R} = 0.50$; $M_{(1.0,90°)} = 0.9$ - Concluded

$\theta_{.75R}$, deg	λ	$\frac{C'_L}{\sigma}$	$\frac{C'_D}{\sigma}$	$\frac{C_Q}{\sigma}$	$\frac{bC_{Q,D}}{\sigma}$	α_c, deg	a_0, deg	a_1, deg	a_2, deg	a_3, deg	b_1, deg	b_2, deg	b_3, deg
$\frac{C'_L}{\sigma} = 0.06$													
-4.00	0.1015	0.060386	0.016397	-0.003814	0.00166	12.461	2.801	0.978	0.484	0.054	1.83	-0.092	0.021
-0.	0.0402	0.060117	0.011215	-0.001435	0.00199	5.312	3.003	3.279	0.690	0.090	2.13	-0.160	0.046
4.00	-0.0203	0.059608	0.006223	0.001360	0.00413	-1.644	3.225	5.706	0.923	0.135	2.54	-0.170	0.095
8.00	-0.0785	0.059613	0.001438	0.004823	0.00963	-8.352	3.450	8.248	1.145	0.156	3.18	-0.083	0.175
12.00	-0.1301	0.059620	-0.002349	0.009208	0.02120	-14.395	3.644	11.300	1.407	0.119	4.42	0.160	0.292
$\frac{C'_L}{\sigma} = 0.064$													
-4.00	0.1048	0.064085	0.017893	-0.004355	0.00222	12.881	3.008	1.291	0.555	0.066	2.00	-0.101	0.029
-0.	0.0443	0.063891	0.012475	-0.001748	0.00377	5.827	3.209	3.727	0.810	0.116	2.37	-0.153	0.064
4.00	-0.0137	0.063735	0.007429	0.001673	0.01027	-0.839	3.408	6.478	1.126	0.162	3.05	-0.097	0.141
8.00	-0.0679	0.063666	0.0029	0.0060	0.02022	-7.088	3.590	9.435	1.401	0.141	4.10	0.085	0.256
$\frac{C'_L}{\sigma} = 0.068$													
-4.00	0.1087	0.068140	0.019649	-0.004922	0.00320	13.392	3.236	1.687	0.648	0.082	2.21	-0.111	0.039
-0.	0.0494	0.067601	0.013824	-0.001788	0.00727	6.465	3.391	4.329	0.965	0.141	2.72	-0.121	0.095
4.00	-0.0059	0.067783	0.008997	0.002170	0.01647	0.102	3.577	7.330	1.299	0.154	3.65	0.001	0.208
8.00	-0.0598	0.067629	0.0045	0.0067	0.02563	-6.101	3.770	10.250	1.513	0.102	4.71	0.152	0.305
$\frac{C'_L}{\sigma} = 0.07$													
-4.00	0.1108	0.070151	0.020564	-0.005163	0.00398	13.674	3.349	1.920	0.701	0.092	2.32	-0.113	0.045
-0.	0.0527	0.069715	0.014667	-0.001707	0.00976	6.868	3.505	4.694	1.049	0.149	2.93	-0.108	0.112
4.00	-0.0022	0.069754	0.009807	0.002429	0.01937	0.543	3.669	7.701	1.357	0.143	3.91	0.031	0.234
8.00	-0.0561	0.069675	0.005486	0.006838	0.02784	-5.650	3.869	10.602	1.549	0.084	4.96	0.170	0.323

TABLE 3. - Continued

CALCULATED CHARACTERISTICS OF A ROTOR HAVING RECTANGULAR BLADES WITH A LINEAR TWIST OF 0°

(i) $\frac{V}{\Omega R} = 0.60$; $M_{(1.0, 90°)} = 0.8$

$\theta_{.75R}$, deg	λ	$\frac{C'_L}{\sigma}$	$\frac{C'_D}{\sigma}$	$\frac{C_Q}{\sigma}$	$\frac{bC_{Q,D}}{\sigma}$	α_c, deg	a_0, deg	a_1, deg	a_2, deg	a_3, deg	b_1, deg	b_2, deg	b_3, deg
$\frac{C'_L}{\sigma} = 0$													
-4.00	0.[illegible]651	-0.000048	0.001831	0.001517	0.00080	6.227	-0.595	-2.724	-0.264	-0.044	-0.53	0.088	-0.037
-0.[illegible]	0.[illegible]	-0.000169	0.001662	0.001475	0.00075	-0.001	-0.320	0.024	-0.003	0.006	-0.20	-0.008	0.004
4.00	-0.[illegible]650	0.000166	0.001834	0.001515	0.00078	-6.220	-0.021	2.756	0.249	0.051	0.11	-0.121	0.032
8.00	-0.1296	0.000187	0.002001	0.001703	0.00090	-12.493	0.257	5.416	0.483	0.088	0.44	-0.206	0.066
12.00	-0.1931	0.000019	0.002047	0.002151	0.00121	-18.840	0.539	7.993	0.704	0.119	0.78	-0.270	0.096
16.00	-0.2553	0.000356	0.001868	0.002969	0.00187	-25.184	0.852	10.483	0.899	0.134	1.16	-0.306	0.120
20.00	-0.3146	0.000222	0.001280	0.004240	0.00333	-31.769	1.150	12.716	1.041	0.130	1.58	-0.276	0.146
$\frac{C'_L}{\sigma} = 0.01$													
-4.00	0.0715	0.019951	0.002737	0.001025	0.00082	6.932	-0.078	-2.135	-0.124	-0.027	-0.11	0.063	-0.024
-0.[illegible]	0.0062	0.010183	0.001936	0.001354	0.00076	0.676	0.206	0.548	0.116	0.018	0.20	-0.040	0.008
4.00	-0.0585	0.010[illegible]42	0.001405	0.001750	0.00078	-5.519	0.500	3.342	0.388	0.067	0.53	-0.151	0.042
8.00	-0.1233	0.010276	0.000933	0.002277	0.00095	-11.787	0.781	5.988	0.614	0.104	0.86	-0.229	0.078
12.00	-0.1867	0.010102	0.000349	0.003066	0.00139	-18.104	1.072	8.584	0.835	0.133	1.21	-0.288	0.109
16.00	-0.2487	0.010353	-0.000524	0.004324	0.00244	-24.407	1.387	11.096	1.027	0.146	1.64	-0.300	0.141
20.00	-0.3077	0.009806	-0.001759	0.006105	0.00595	-30.906	1.662	13.394	1.168	0.135	2.16	-0.222	0.182
$\frac{C'_L}{\sigma} = 0.02$													
-4.00	0.0781	0.019983	0.004087	0.000313	0.00088	7.649	0.441	-1.527	0.019	-0.009	0.32	0.035	-0.011
-0.[illegible]	0.124	0.020172	0.002622	0.000983	0.00078	1.349	0.712	1.092	0.242	0.033	0.60	-0.064	0.020
4.00	-0.0520	0.020239	0.001477	0.001727	0.00082	-4.816	1.021	3.930	0.528	0.084	0.95	-0.178	0.053
8.00	-0.1170	0.020270	0.000319	0.002616	0.00107	-11.092	1.299	6.548	0.744	0.119	1.28	-0.249	0.090
12.00	-0.1803	0.020070	-0.000901	0.003782	0.00176	-17.373	1.595	9.168	0.965	0.147	1.66	-0.293	0.127
16.00	-0.2415	0.020392	-0.002475	0.005593	0.00493	-23.606	1.908	11.754	1.168	0.156	2.19	-0.260	0.176
20.00	-0.2997	0.020184	-0.004249	0.008119	0.01080	-29.835	2.176	14.255	1.323	0.131	2.97	-0.101	0.243

TABLE 3. - Continued

CALCULATED CHARACTERISTICS OF A ROTOR HAVING RECTANGULAR BLADES WITH A LINEAR TWIST OF 0°

(i) $\frac{V}{\Omega R} = 0.60$; $M_{(1.0,90°)} = 0.8$ - Continued

$\theta_{.75R}$, deg	λ	$\frac{C'_L}{\sigma}$	$\frac{C'_D}{\sigma}$	$\frac{C_Q}{\sigma}$	$\frac{bC_{Q,D}}{\sigma}$	α_c, deg	a_0, deg	a_1, deg	a_2, deg	a_3, deg	b_1, deg	b_2, deg	b_3, deg
$\frac{C'_L}{\sigma} = 0.03$													
-4.00	0.0849	0.030156	0.005884	-0.000634	0.00098	8.383	0.977	-0.898	0.167	0.011	0.73	-0.004	-0.002
[illegible]	0.0199	0.030365	0.003768	0.000369	0.00082	2.061	1.235	1.690	0.384	0.051	1.02	-0.093	0.032
4.00	-0.0459	0.029559	0.002023	0.001393	0.00092	-4.155	1.510	4.475	0.658	0.105	1.36	-0.193	0.068
8.00	-0.1127	0.030223	0.000148	0.002728	0.00131	-10.399	1.814	7.109	0.875	0.135	1.70	-0.265	0.104
12.00	-0.1739	0.029538	-0.001684	0.004360	0.00391	-16.652	2.077	9.765	1.102	0.162	2.14	-0.271	0.156
16.00	-0.2340	0.029712	-0.003721	0.006762	0.00935	-22.750	2.363	12.471	1.317	0.159	2.87	-0.161	0.229
20.00	-0.2905	0.029667	-0.005810	0.009764	0.01689	-28.767	2.608	15.104	1.456	0.105	3.93	0.076	0.307
$\frac{C'_L}{\sigma} = 0.04$													
-4.00	0.0915	0.040245	0.008142	-0.001775	0.00115	9.147	1.511	-0.228	0.325	0.032	1.17	-0.040	0.011
-0.	0.0257	0.040040	0.005282	-0.000412	0.00097	2.778	1.733	2.339	0.542	0.072	1.44	-0.123	0.048
4.00	-0.0391	0.040007	0.003040	0.000867	0.00113	-3.419	2.052	5.101	0.813	0.122	1.81	-0.220	0.078
8.00	-0.1043	0.039802	0.000422	0.002667	0.00184	-9.699	2.303	7.704	1.020	0.154	2.16	-0.260	0.127
12.00	-0.1656	0.039924	-0.001912	0.005081	0.00881	-15.701	2.577	10.625	1.311	0.181	2.89	-0.174	0.217
16.00	-0.2236	0.039501	-0.004363	0.008065	0.01766	-21.568	2.765	13.505	1.514	0.136	4.01	0.079	0.332
20.00	-0.2784	0.039582	-0.006215	0.011710	0.02572	-27.323	2.999	16.234	1.598	0.038	5.37	0.354	0.389
$\frac{C'_L}{\sigma} = 0.045$													
-4.00	0.0556	0.045357	0.009445	-0.002410	0.00127	9.548	1.780	0.139	0.412	0.044	1.39	-0.060	0.017
-0.	0.0294	0.045067	0.006241	-0.000884	0.00112	3.173	1.995	2.718	0.638	0.087	1.68	-0.141	0.055
4.00	-0.0354	0.044784	0.003639	0.000612	0.00138	-3.028	2.285	5.502	0.926	0.143	2.07	-0.219	0.091
8.00	-0.1003	0.044676	0.000725	0.002721	0.00426	-9.269	2.534	8.133	1.139	0.173	2.50	-0.224	0.154
12.00	-0.1601	0.044676	-0.001648	0.005512	0.01382	-15.119	2.754	11.188	1.438	0.177	3.47	-0.041	0.280
16.00	-0.2166	0.044812	-0.003769	0.008956	0.02307	-20.799	2.985	14.153	1.618	0.102	4.76	0.217	0.375

TABLE 3.- Continued

CALCULATED CHARACTERISTICS OF A ROTOR HAVING RECTANGULAR BLADES WITH A LINEAR TWIST OF 0°

(i) $\frac{V}{\Omega R} = 0.60$; $M_{(1.0,90°)} = 0.8$ - Concluded

$\theta_{.75R}$, deg	λ	$\frac{C'_L}{\sigma}$	$\frac{C'_D}{\sigma}$	$\frac{C_Q}{\sigma}$	$\frac{bC_{Q,D}}{\sigma}$	α_c, deg	a_0, deg	a_1, deg	a_2, deg	a_3, deg	b_1, deg	b_2, deg	b_3, deg
$\frac{C'_L}{\sigma} = 0.05$													
-4.00	0.992	0.050039	0.010750	-0.003025	0.00145	9.928	2.023	0.535	0.501	0.058	1.61	-0.073	0.028
-0.	0.335	0.050177	0.007334	-0.001378	0.00171	3.606	2.264	3.165	0.757	0.107	1.92	-0.166	0.060
4.00	-0.0306	0.049612	0.004330	0.000521	0.00515	-2.527	2.502	6.094	1.099	0.175	2.44	-0.186	0.126
8.00	-0.0933	0.049604	0.001472	0.003027	0.01184	-8.558	2.717	8.972	1.372	0.196	3.17	-0.081	0.234
12.00	-0.1528	0.049784	-0.000993	0.006158	0.02030	-14.358	2.957	11.912	1.584	0.152	4.22	0.112	0.343
$\frac{C'_L}{\sigma} = 0.055$													
-4.00	0.1131	0.055097	0.012266	-0.003767	0.00184	10.358	2.285	0.933	0.607	0.075	1.84	-0.092	0.038
-0.	0.384	0.055398	0.008597	-0.001857	0.00337	4.179	2.537	3.680	0.889	0.130	2.20	-0.171	0.075
4.00	-0.247	0.054642	0.005256	0.000547	0.01014	-1.927	2.721	6.774	1.272	0.190	2.92	-0.118	0.185
8.00	-0.0852	0.054626	0.002536	0.003531	0.01933	-7.733	2.919	9.853	1.553	0.169	3.92	0.049	0.313
$\frac{C'_L}{\sigma} = 0.06$													
-4.00	0.175	0.061151	0.013879	-0.004352	0.00287	10.824	2.546	1.419	0.729	0.096	2.11	-0.105	0.053
-0.	0.430	0.059797	0.009718	-0.002083	0.00644	4.595	2.749	4.290	1.058	0.159	2.56	-0.159	0.112
4.00	-0.183	0.059756	0.006392	0.000709	0.01502	-1.270	2.962	7.468	1.416	0.184	3.43	-0.056	0.243
8.00	-0.776	0.059743	0.003686	0.004035	0.02451	-6.960	3.166	10.601	1.679	0.132	4.54	0.116	0.362

TABLE 3. - Continued

CALCULATED CHARACTERISTICS OF A ROTOR HAVING RECTANGULAR BLADES WITH A LINEAR TWIST OF 0°

(j) $\frac{V}{\Omega R} = 0.60$; $M_{(1.0,90°)} = 0.85$

$\theta_{.75R}$, deg	λ	$\frac{C'_L}{\sigma}$	$\frac{C'_D}{\sigma}$	$\frac{C_Q}{\sigma}$	$\frac{bC_{Q,D}}{\sigma}$	α_c, deg	a_0, deg	a_1, deg	a_2, deg	a_3, deg	b_1, deg	b_2, deg	b_3, deg
$\frac{C'_L}{\sigma} = 0$													
-4.00	0.0651	-0.000165	0.002154	0.001844	0.00028	6.233	-0.564	-2.732	-0.266	-0.048	-0.52	0.095	-0.038
-2.00	[illegible]	-0.000019	0.001967	0.001777	0.00075	-0.000	-0.273	0.010	-0.009	0.002	-0.19	-0.017	-0.004
4.00	-0.0651	0.000173	0.002158	0.001943	0.00078	-6.226	0.017	2.761	0.253	0.053	0.15	-0.123	0.033
8.00	-0.1297	0.000276	0.002323	0.002259	0.00091	-12.512	0.304	5.427	0.488	0.094	0.49	-0.215	0.067
12.00	-0.1932	0.000152	0.002363	0.002549	0.00125	-18.853	0.592	8.010	0.712	0.127	0.84	-0.282	0.098
16.00	-0.2555	0.000339	0.002243	0.003429	0.00210	-25.212	0.897	10.496	0.908	0.143	1.23	-0.317	0.125
20.00	-0.3148	0.000187	0.001672	0.004787	0.00390	-31.793	1.191	12.737	1.050	0.137	1.67	-0.279	0.154
$\frac{C'_L}{\sigma} = 0.01$													
-4.00	0.0715	0.009925	0.00305	0.001348	0.00082	6.927	-0.046	-2.145	-0.126	-0.030	-0.09	0.067	-0.025
-2.00	[illegible]	0.010113	0.002246	0.001677	0.00076	0.656	0.233	0.538	0.115	0.018	0.22	-0.040	0.008
4.00	-0.0587	0.010059	0.001735	0.002084	0.00078	-5.534	0.540	3.346	0.392	0.071	0.57	-0.155	0.043
8.00	-0.1235	0.010342	0.001269	0.002645	0.00097	-11.816	0.827	5.996	0.620	0.111	0.91	-0.239	0.079
12.00	-0.1869	0.010193	0.000691	0.003487	0.00150	-18.126	1.121	8.598	0.844	0.142	1.28	-0.300	0.112
16.00	-0.2490	0.010345	-0.000132	0.004845	0.00295	-24.435	1.430	11.111	1.036	0.154	1.72	-0.307	0.148
20.00	-0.3079	0.009728	-0.001316	0.006716	0.00649	-30.929	1.696	13.411	1.176	0.140	2.26	-0.220	0.192
$\frac{C'_L}{\sigma} = 0.02$													
-4.00	0.1781	0.019945	0.004389	0.001625	0.00188	7.635	0.473	-1.539	0.017	-0.011	0.33	0.037	-0.012
-2.00	0.0122	0.020145	0.002935	0.001387	0.00078	1.330	0.748	1.088	0.244	0.035	0.63	-0.066	0.020
4.00	-0.0523	0.020059	0.001839	0.002051	0.00083	-4.839	1.061	3.933	0.532	0.089	1.00	-0.184	0.055
8.00	-0.1173	0.020323	0.000665	0.003001	0.00112	-11.121	1.345	6.556	0.750	0.127	1.33	-0.261	0.092
12.00	-0.1816	0.020102	-0.000537	0.004239	0.00207	-17.402	1.640	9.182	0.975	0.156	1.73	-0.302	0.132
16.00	-0.2418	0.020327	-0.002153	0.006176	0.00551	-23.633	1.943	11.770	1.177	0.163	2.29	-0.260	0.186
20.00	-0.2998	0.020114	-0.003744	0.008726	0.01156	-29.851	2.205	14.262	1.327	0.134	3.09	-0.098	0.252

TABLE 3. - Continued

CALCULATED CHARACTERISTICS OF A ROTOR HAVING RECTANGULAR BLADES WITH A LINEAR TWIST OF 0°

(j) $\frac{V}{\Omega R} = 0.60$; $M_{(1.0,90°)} = 0.85$ - Continued

$\theta_{.75R}$, deg	λ	$\frac{C'_L}{\sigma}$	$\frac{C'_D}{\sigma}$	$\frac{C_Q}{\sigma}$	$\frac{bC_{Q,D}}{\sigma}$	α_c, deg	a_0, deg	a_1, deg	a_2, deg	a_3, deg	b_1, deg	b_2, deg	b_3, deg
$\frac{C'_L}{\sigma} = 0.03$													
-4.00	0.[illegible]846	0.03[illegible]	0.006175	-0.00[illegible]316	0.00097	8.359	1.008	-0.912	0.166	0.010	0.75	-0.003	-0.002
-[illegible]	0.[illegible]187	0.03[illegible]368	0.004078	0.000696	0.00082	2.034	1.273	1.685	0.385	0.053	1.05	-0.097	0.032
4.00	-0.[illegible]462	0.029564	0.002349	0.001750	0.00093	-4.187	1.550	4.476	0.663	0.106	1.41	-0.201	0.069
8.00	-0.1111	0.030258	0.000570	0.003139	0.00143	-10.434	1.859	7.117	0.882	0.143	1.77	-0.275	0.107
12.00	-0.1742	0.029631	-0.001320	0.004909	0.00351	-16.683	2.131	9.768	1.107	0.168	2.22	-0.288	0.155
16.00	-0.2342	0.029663	-0.003267	0.007427	0.01018	-22.773	2.397	12.477	1.322	0.163	2.99	-0.162	0.237
20.00	-0.2906	0.029653	-0.005260	0.010570	0.01758	-28.780	2.639	15.095	1.457	0.107	4.05	0.074	0.314
$\frac{C'_L}{\sigma} = 0.04$													
-4.00	0.0915	0.04[illegible]179	0.008417	-0.001460	0.00113	9.112	1.542	-0.248	0.323	0.[illegible]33	1.19	-0.040	0.010
-[illegible]	0.0253	0.040038	0.005587	-0.000081	0.00097	2.741	1.771	2.327	0.542	0.075	1.48	-0.128	0.048
4.00	-0.0395	0.041117	0.003371	0.001238	0.[illegible]119	-3.459	2.094	5.099	0.817	0.129	1.86	-0.229	0.080
8.00	-0.1147	0.039783	0.000774	0.003123	0.[illegible]222	-9.738	2.342	7.713	1.028	0.162	2.24	-0.266	0.133
12.00	-0.1662	0.039524	-0.001518	0.005651	0.[illegible]903	-15.776	2.591	10.578	1.301	0.184	2.96	-0.181	0.221
16.00	-0.2238	0.039521	-0.003551	0.008828	0.[illegible]1830	-21.584	2.799	13.486	1.513	0.138	4.12	0.075	0.339
20.00	-0.2785	0.039638	-0.005600	0.012625	0.02616	-27.338	3.032	16.197	1.596	0.041	5.46	0.344	0.394
$\frac{C'_L}{\sigma} = 0.045$													
-4.00	0.[illegible]952	0.045285	0.009713	-0.002096	0.00124	9.506	1.811	0.114	0.409	0.045	1.41	-0.062	0.017
-0.[illegible]	0.[illegible]290	0.045[illegible]66	0.006547	-0.000554	0.00112	3.131	2.032	2.701	0.638	0.091	1.71	-0.146	0.056
4.00	-0.0358	0.044799	0.003974	0.000994	0.00150	-3.071	2.326	5.493	0.928	0.149	2.13	-0.227	0.094
8.00	-0.1007	0.44662	0.001091	0.003209	0.[illegible]460	-9.306	2.572	8.136	1.145	0.180	2.58	-0.228	0.162
12.00	-0.1604	0.044575	-0.001267	0.006151	0.01439	-15.153	2.784	11.165	1.436	0.180	3.57	-0.044	0.287
16.00	-0.2168	0.044815	-0.003232	0.009758	0.02346	-20.828	3.020	14.111	1.615	0.106	4.85	0.207	0.381

TABLE 3.- Continued

CALCULATED CHARACTERISTICS OF A ROTOR HAVING RECTANGULAR BLADES WITH A LINEAR TWIST OF 0°

(j) $\frac{V}{\Omega R} = 0.60$; $M_{(1.0,90°)} = 0.85$ - Concluded

$\theta_{.75R}$, deg	λ	$\frac{C'_L}{\sigma}$	$\frac{C'_D}{\sigma}$	$\frac{C_Q}{\sigma}$	$\frac{bC_{Q,D}}{\sigma}$	α_c, deg	a_0, deg	a_1, deg	a_2, deg	a_3, deg	b_1, deg	b_2, deg	b_3, deg
$\frac{C'_L}{\sigma} = 0.05$													
-4.00	0.0987	0.0[illegible]44	0.011037	-0.002725	0.00142	9.887	2.058	0.481	0.499	0.060	1.63	-0.075	0.028
-0.	0.[illegible]330	0.050112	0.007636	-0.001050	0.[illegible]164	3.559	2.291	3.150	0.759	0.112	1.97	-0.163	0.067
4.00	-0.0313	0.049627	0.004666	0.[illegible]2937	0.[illegible]523	-2.569	2.542	6.076	1.100	0.181	2.51	-0.191	0.130
8.00	-0.[illegible]537	0.049568	0.001851	0.003580	0.[illegible]1241	-8.598	2.752	8.942	1.370	0.200	3.25	-0.087	0.239
12.00	-0.1530	0.049735	-0.000511	0.006873	0.[illegible]2877	-14.383	2.992	11.879	1.582	0.156	4.32	0.106	0.349
$\frac{C'_L}{\sigma} = 0.055$													
-4.00	0.1027	0.055098	0.012544	-0.003464	0.[illegible]181	10.314	2.320	0.907	0.606	0.078	1.88	-0.094	0.039
-0.	0.[illegible]378	0.055304	0.008840	-0.001458	0.[illegible]366	4.058	2.557	3.709	0.914	0.141	2.29	-0.176	0.083
4.00	-0.251	0.054583	0.005592	0.001027	0.[illegible]1056	-1.965	2.754	6.751	1.273	0.196	3.00	-0.119	0.191
8.00	-0.[illegible]855	0.054553	0.002959	0.004170	0.[illegible]1980	-7.764	2.950	9.813	1.551	0.173	4.01	0.045	0.318
$\frac{C'_L}{\sigma} = 0.06$													
-4.00	0.1070	0.060160	0.014137	-0.004029	0.[illegible]287	10.779	2.581	1.395	0.730	0.130	2.15	-0.109	0.054
-2.	0.[illegible]427	0.059832	0.010025	-0.001697	0.[illegible]673	4.561	2.783	4.281	1.065	0.166	2.63	-0.159	0.118
4.00	-0.186	0.059618	0.006747	0.001248	0.[illegible]1568	-1.3[illegible]	2.976	7.444	1.417	0.187	3.54	-0.044	0.255
8.00	-0.2775	0.059690	0.004146	0.004741	0.[illegible]2498	-6.987	3.197	10.556	1.669	0.137	4.64	0.110	0.367

TABLE 3. - Continued

CALCULATED CHARACTERISTICS OF A ROTOR HAVING RECTANGULAR BLADES WITH A LINEAR TWIST OF 3°

(k) $\frac{V}{\Omega R} = 0.60$; $M_{(1.0,90°)} = 0.9$

$\theta_{.75R}$, deg	λ	$\frac{C'_L}{\sigma}$	$\frac{C'_D}{\sigma}$	$\frac{C_Q}{\sigma}$	$\frac{bC_{Q,D}}{\sigma}$	α_c, deg	a_0, deg	a_1, deg	a_2, deg	a_3, deg	b_1, deg	b_2, deg	b_3, deg
$\frac{C'_L}{\sigma} = 0$													
-4.00	0.0651	-0.000082	0.002896	0.002578	0.00080	6.235	-0.534	-2.722	-0.269	-0.051	-0.51	0.101	-0.040
-0.[illegible]	[illegible]	-0.000019	0.002671	0.002473	0.00075	-0.000	-0.243	0.008	-0.008	0.002	-0.17	-0.016	-0.004
4.00	-0.0654	-0.000456	0.002926	0.002545	0.00079	-6.268	0.012	2.718	0.250	0.055	0.16	-0.120	0.038
8.00	-0.1299	0.000195	0.003101	0.002811	0.00091	-12.516	0.327	5.394	0.495	0.099	0.52	-0.224	0.071
12.00	-0.1933	0.000281	0.003137	0.003357	0.00128	-18.857	0.624	7.977	0.724	0.135	0.89	-0.297	0.104
16.00	-0.2556	0.000318	0.003112	0.004305	0.00233	-25.226	0.914	10.442	0.920	0.151	1.28	-0.330	0.135
20.00	-0.3148	0.000191	0.002600	0.005749	0.00454	-31.798	1.201	12.676	1.064	0.143	1.74	-0.288	0.167
$\frac{C'_L}{\sigma} = 0.01$													
-4.00	0.0714	0.000906	0.003788	0.002074	0.00082	6.919	-0.014	-2.135	-0.129	-0.032	-0.08	0.071	-0.028
-0.[illegible]	0.0059	0.000982	0.002973	0.002399	0.00076	0.645	0.262	0.537	0.116	0.019	0.24	-0.039	0.009
4.00	-0.0588	0.010070	0.002481	0.002831	0.00078	-5.546	0.569	3.333	0.397	0.074	0.60	-0.160	0.046
8.00	-0.1236	0.010399	0.002036	0.003432	0.00098	-11.820	0.859	5.972	0.629	0.117	0.95	-0.250	0.083
12.00	-0.1871	0.010283	0.001481	0.004337	0.00160	-18.140	1.151	8.566	0.856	0.150	1.32	-0.313	0.120
16.00	-0.2491	0.010336	0.000749	0.005801	0.00348	-24.450	1.445	11.061	1.049	0.160	1.78	-0.316	0.159
20.00	-0.3079	0.009754	-0.000367	0.007768	0.00701	-30.935	1.704	13.349	1.188	0.144	2.33	-0.226	0.206
$\frac{C'_L}{\sigma} = 0.02$													
-4.00	0.0778	0.019927	0.005119	0.001344	0.00088	7.616	0.506	-1.529	0.015	-0.013	0.35	0.039	-0.015
-0.[illegible]	0.0120	0.020104	0.003659	0.002035	0.00078	1.308	0.778	1.088	0.246	0.036	0.65	-0.067	0.021
4.00	-0.0525	0.020006	0.002553	0.002814	0.00083	-4.863	1.092	3.921	0.538	0.093	1.03	-0.190	0.057
8.00	-0.1175	0.020362	0.001436	0.003817	0.00116	-11.145	1.376	6.532	0.760	0.133	1.37	-0.272	0.097
12.00	-0.1879	0.019980	0.000286	0.005133	0.00238	-17.433	1.656	9.144	0.986	0.163	1.79	-0.311	0.142
16.00	-0.2419	0.020319	-0.001159	0.007219	0.00592	-23.648	1.957	11.724	1.188	0.167	2.37	-0.265	0.199
20.00	-0.2999	0.020128	-0.002753	0.009885	0.01205	-29.865	2.212	14.190	1.335	0.136	3.15	-0.106	0.264

TABLE 3. - Continued

CALCULATED CHARACTERISTICS OF A ROTOR HAVING RECTANGULAR BLADES WITH A LINEAR TWIST OF 0°

(k) $\frac{V}{\Omega R} = 0.60$; $M_{(1.0, 90°)} = 0.9$ - Continued

$\theta_{.75R}$, deg	λ	$\frac{C'_L}{\sigma}$	$\frac{C'_D}{\sigma}$	$\frac{C_Q}{\sigma}$	$\frac{bC_{Q,D}}{\sigma}$	α_c, deg	a_0, deg	a_1, deg	a_2, deg	a_3, deg	b_1, deg	b_2, deg	b_3, deg
$\frac{C'_L}{\sigma} = 0.03$													
-4.00	0.[illegible]843	0.029956	0.006897	0.000397	0.00096	8.328	1.040	-0.903	0.165	0.009	0.77	0.000	-0.004
-0.[illegible]	0.2184	0.030356	0.004801	0.001430	0.00082	2.003	1.306	1.686	0.388	0.055	1.08	-0.101	0.033
4.00	-0.[illegible]465	0.029688	0.003097	0.002527	0.00095	-4.212	1.589	4.472	0.671	0.111	1.45	-0.210	0.072
8.00	-0.1114	0.030279	0.001275	0.003994	0.00157	-10.465	1.889	7.099	0.893	0.150	1.82	-0.285	0.113
12.00	-0.1744	0.029629	-0.000499	0.005890	0.00398	-16.706	2.152	9.742	1.119	0.174	2.29	-0.293	0.167
16.00	-0.2343	0.029696	-0.002353	0.008562	0.01081	-22.790	2.414	12.434	1.331	0.165	3.06	-0.166	0.249
20.00	-0.2908	0.029721	-0.004242	0.011827	0.01804	-28.799	2.650	15.029	1.463	0.108	4.11	0.066	0.324
$\frac{C'_L}{\sigma} = 0.04$													
-4.00	0.0912	0.041251	0.009160	-0.000770	0.00112	9.078	1.582	-0.231	0.324	0.032	1.22	-0.040	0.009
-0.[illegible]	0.2249	0.043[illegible]32	0.006317	0.000656	0.00097	2.698	1.805	2.325	0.544	0.077	1.51	-0.133	0.048
4.00	-0.[illegible]472	0.039514	0.004057	0.002056	0.00123	-3.535	2.096	5.061	0.817	0.133	1.89	-0.229	0.087
8.00	-0.1059	0.039795	0.001548	0.004243	0.00264	-9.771	2.371	7.701	1.040	0.168	2.30	-0.271	0.142
12.00	-0.1666	0.039932	-0.000628	0.006774	0.00973	-15.752	2.636	10.606	1.324	0.188	3.08	-0.175	0.238
16.00	-0.2241	0.039600	-0.002594	0.010073	0.01875	-21.616	2.824	13.439	1.516	0.138	4.18	0.066	0.346
20.00	-0.2792	0.039554	-0.004619	0.013951	0.02605	-27.441	3.053	16.080	1.591	0.045	5.42	0.311	0.391
$\frac{C'_L}{\sigma} = 0.045$													
-4.00	0.0948	0.045401	0.011465	-0.001419	0.00123	9.476	1.854	0.132	0.411	0.046	1.44	-0.063	0.015
-0.[illegible]	0.2285	0.045165	0.007271	0.000183	0.00112	3.033	2.067	2.699	0.641	0.094	1.75	-0.150	0.057
4.00	-0.[illegible]363	0.044887	0.004724	0.001328	0.00164	-3.115	2.375	5.479	0.933	0.154	2.16	-0.245	0.091
8.00	-0.1011	0.044676	0.001883	0.004166	0.00430	-9.341	2.601	8.123	1.153	0.183	2.65	-0.230	0.171
12.00	-0.1606	0.044741	-0.000321	0.007306	0.01501	-15.178	2.820	11.142	1.440	0.179	3.65	-0.049	0.295
16.00	-0.2177	0.044528	-0.002270	0.10957	0.02341	-20.920	3.018	14.028	1.608	0.106	4.88	0.203	0.391

TABLE 3. - Continued

CALCULATED CHARACTERISTICS OF A ROTOR HAVING RECTANGULAR BLADES WITH A LINEAR TWIST OF 0°

(k) $\frac{V}{\Omega R} = 0.60$; $M_{(1.0, 90°)} = 0.9$ - Concluded

$\theta_{.75R}$, deg	λ	$\frac{C'_L}{\sigma}$	$\frac{C'_D}{\sigma}$	$\frac{C_Q}{\sigma}$	$\frac{bC_{Q,D}}{\sigma}$	α_c, deg	a_0, deg	a_1, deg	a_2, deg	a_3, deg	b_1, deg	b_2, deg	b_3, deg
$\frac{C'_L}{\sigma} = 0.05$													
-4.00	0.0982	0.050742	0.011756	-0.002034	[illegible]	9.836	2.095	0.491	0.500	0.069	1.66	-0.076	0.026
-2.	0.0325	0.050123	0.008366	-0.000308	[illegible]	3.508	2.327	3.152	0.764	0.116	2.02	-0.166	0.069
4.00	-0.0315	0.049643	0.005423	0.001806	[illegible]	-2.614	2.575	6.069	1.106	0.185	2.57	-0.192	0.137
8.00	-0.0942	0.049576	0.002654	0.004635	0.01213	-8.647	2.784	8.913	1.369	0.200	3.32	-0.089	0.246
12.00	-0.1536	0.049771	0.000479	0.008072	[illegible]	-14.437	3.021	11.845	1.581	0.156	4.39	0.099	0.354
$\frac{C'_L}{\sigma} = 0.055$													
-4.00	0.1021	0.055298	0.013253	-0.002705	0.00183	10.262	2.357	0.924	0.608	0.079	1.91	-0.095	0.038
-2.	0.0371	0.055173	0.009516	-0.000671	[illegible]	3.987	2.588	3.693	0.912	0.144	2.32	-0.181	0.083
4.00	-0.0255	0.054572	0.006373	0.001972	0.01107	-2.064	2.785	6.760	1.280	0.197	3.08	-0.115	0.199
8.00	-0.0860	0.054676	0.003835	0.005303	0.02037	-7.807	3.002	9.807	1.554	0.174	4.08	0.032	0.317
$\frac{C'_L}{\sigma} = 0.06$													
-4.00	0.1165	0.060181	0.014841	-0.003314	0.00297	10.729	2.618	1.426	0.737	0.103	2.19	-0.110	0.054
-2.	0.0419	0.059697	0.010624	-0.001018	[illegible]	4.559	2.825	4.191	1.033	0.161	2.62	-0.167	0.107
4.00	-0.0189	0.059740	0.007578	0.002286	0.01668	-1.328	3.028	7.471	1.425	0.187	3.62	-0.051	0.256
8.00	-0.0783	0.052700	0.005084	0.005938	0.02556	-7.030	3.233	10.566	1.672	0.135	4.73	0.111	0.371

TABLE 3.- Continued

CALCULATED CHARACTERISTICS OF A ROTOR HAVING RECTANGULAR BLADES WITH A LINEAR TWIST OF 0°

(l) $\frac{V}{\Omega R} = 0.70$; $M_{(1.0,90°)} = 0.8$

$\theta_{.75R}$, deg	λ	$\frac{C'_L}{\sigma}$	$\frac{C'_D}{\sigma}$	$\frac{C_Q}{\sigma}$	$\frac{bC_{Q,D}}{\sigma}$	α_c, deg	a_0, deg	a_1, deg	a_2, deg	a_3, deg	b_1, deg	b_2, deg	b_3, deg
$\frac{C'_L}{\sigma} = 0$													
-4.00	0.0700	0.000172	0.002353	0.001630	0.00088	5.746	-0.632	-3.102	-0.340	-0.062	-0.66	0.127	-0.043
-0.	0.	-0.000049	0.002035	0.001636	0.00086	-0.000	-0.349	0.017	-0.013	0.004	-0.27	-0.025	-0.006
4.00	-0.0699	-0.000134	0.002363	0.001623	0.00087	-5.737	-0.061	3.149	0.320	0.071	0.13	-0.172	0.033
8.00	-0.1401	0.000142	0.002926	0.001700	0.00097	-11.565	0.204	6.064	0.584	0.123	0.50	-0.279	0.077
12.00	-0.2083	0.000100	0.003528	0.002028	0.00131	-17.389	0.484	9.033	0.874	0.170	0.93	-0.373	0.116
16.00	-0.2761	-0.000012	0.004144	0.002650	0.00212	-23.237	0.744	11.864	1.119	0.196	1.39	-0.422	0.152
$\frac{C'_L}{\sigma} = 0.01$													
-4.00	0.0764	0.010195	0.003111	0.001172	0.00090	6.335	-0.121	-2.405	-0.162	-0.038	-0.18	0.078	-0.030
-0.	0.0058	0.010074	0.002296	0.001478	0.00087	0.535	0.143	0.594	0.130	0.023	0.17	-0.057	0.008
4.00	-0.0635	0.009832	0.002104	0.001760	0.00089	-5.152	0.448	3.843	0.497	0.096	0.61	-0.220	0.046
8.00	-0.1340	0.010204	0.002117	0.002167	0.00104	-10.993	0.711	6.704	0.742	0.145	0.96	-0.316	0.091
12.00	-0.2021	0.010356	0.002232	0.002830	0.00158	-16.791	1.014	9.673	1.026	0.188	1.41	-0.408	0.125
16.00	-0.2693	0.010075	0.002311	0.003942	0.00491	-22.576	1.250	12.586	1.287	0.212	2.00	-0.393	0.191
$\frac{C'_L}{\sigma} = 0.02$													
-4.00	0.0829	0.020295	0.004295	0.000464	0.00096	6.991	0.390	-1.691	0.019	-0.012	0.29	0.028	-0.017
-0.	0.0118	0.020310	0.002930	0.001089	0.00089	1.089	0.643	1.208	0.282	0.045	0.63	-0.094	0.022
4.00	-0.0571	0.019908	0.002383	0.001548	0.00097	-4.568	0.961	4.527	0.673	0.120	1.09	-0.264	0.059
8.00	-0.1279	0.020173	0.001722	0.002383	0.00122	-10.428	1.215	7.336	0.900	0.166	1.43	-0.348	0.106
12.00	-0.1960	0.019929	0.001398	0.003445	0.00290	-16.204	1.492	10.329	1.189	0.209	1.93	-0.407	0.152
16.00	-0.2613	0.020016	0.001008	0.005214	0.01060	-21.849	1.722	13.396	1.475	0.221	2.78	-0.295	0.254

TABLE 3.- Continued

CALCULATED CHARACTERISTICS OF A ROTOR HAVING RECTANGULAR BLADES WITH A LINEAR TWIST OF 0°

(l) $\frac{V}{\Omega R} = 0.70$; $M_{(1.0,90°)} = 0.8$ - Continued

$\theta_{.75R}$, deg	λ	$\frac{C'_L}{\sigma}$	$\frac{C'_D}{\sigma}$	$\frac{C_Q}{\sigma}$	$\frac{bC_{Q,D}}{\sigma}$	α_c, deg	a_0, deg	a_1, deg	a_2, deg	a_3, deg	b_1, deg	b_2, deg	b_3, deg
$\frac{C'_L}{\sigma} = 0.03$													
-4.00	0.0897	0.030469	0.005874	-0.000451	0.00109	7.547	0.903	-0.935	0.210	0.016	0.78	-0.027	-0.004
-0.	0.0179	0.030023	0.003890	0.000511	0.00094	1.645	1.114	1.874	0.452	0.069	1.08	-0.131	0.042
4.00	-0.0509	0.029857	0.0028	0.0013	0.00113	-3.999	1.452	5.195	0.852	0.150	1.57	-0.293	0.074
8.00	-0.1218	0.029756	0.001749	0.002402	0.00160	-9.859	1.691	7.999	1.073	0.191	1.93	-0.361	0.130
12.00	-0.1886	0.029595	0.001057	0.004147	0.00916	-15.475	1.926	11.203	1.417	0.235	2.70	-0.308	0.228
16.00	-0.2520	0.029634	0.000527	0.006511	0.01890	-20.954	2.124	14.352	1.672	0.201	3.85	-0.092	0.353
$\frac{C'_L}{\sigma} = 0.04$													
-4.00	0.0963	0.040021	0.007709	-0.001447	0.00130	8.149	1.375	-0.157	0.409	0.047	1.25	-0.075	0.017
-0.	0.0249	0.040095	0.005240	-0.000226	0.00117	2.277	1.604	2.711	0.674	0.105	1.59	-0.182	0.062
4.00	-0.0434	0.039865	0.0037	0.000878	0.00477	-3.323	1.922	6.121	1.118	0.201	2.18	-0.299	0.113
8.00	-0.1123	0.039702	0.002390	0.002707	0.01107	-9.002	2.118	9.200	1.418	0.240	2.86	-0.245	0.225
12.00	-0.1778	0.039829	0.001460	0.005119	0.02001	-14.488	2.343	12.351	1.681	0.221	3.89	-0.081	0.351
$\frac{C'_L}{\sigma} = 0.045$													
-4.00	0.0998	0.045059	0.008813	-0.002022	0.00147	8.473	1.625	0.263	0.517	0.064	1.50	-0.100	0.028
-0.	0.0287	0.045162	0.006084	-0.000645	0.00192	2.619	1.850	3.183	0.799	0.127	1.86	-0.207	0.077
4.00	-0.0393	0.044518	0.004416	0.000791	0.00807	-2.959	2.118	6.622	1.247	0.217	2.54	-0.260	0.161
8.00	-0.1061	0.044741	0.003040	0.003023	0.01717	-8.463	2.342	9.919	1.584	0.234	3.45	-0.173	0.288
12.00	-0.1719	0.044636	0.001928	0.005664	0.02521	-13.959	2.532	12.930	1.784	0.188	4.52	0.024	0.405

TABLE 3.- Continued

CALCULATED CHARACTERISTICS OF A ROTOR HAVING RECTANGULAR BLADES WITH A LINEAR TWIST OF 0°

(l) $\frac{V}{\Omega R} = 0.70$; $M_{(1.0,90°)} = 0.8$ - Concluded

$\theta_{.75R}$, deg	λ	$\frac{C'_L}{\sigma}$	$\frac{C'_D}{\sigma}$	$\frac{C_Q}{\sigma}$	$\frac{bC_{Q,D}}{\sigma}$	α_c, deg	a_0, deg	a_1, deg	a_2, deg	a_3, deg	b_1, deg	b_2, deg	b_3, deg
$\frac{C'_L}{\sigma} = 0.05$													
-4.00	0.1035	0.050094	0.010014	-0.002616	0.00183	8.808	1.877	0.699	0.624	0.083	1.75	-0.126	0.041
-0.	0.0327	0.050335	0.007032	-0.001050	0.00361	2.979	2.115	3.670	0.925	0.150	2.14	-0.238	0.088
4.00	-0.0344	0.049719	0.005153	0.000792	0.01205	-2.525	2.350	7.194	1.379	0.225	2.97	-0.222	0.212
8.00	-0.1000	0.049551	0.003812	0.003354	0.02248	-7.925	2.542	10.582	1.709	0.211	4.03	-0.091	0.353
$\frac{C'_L}{\sigma} = 0.055$													
-4.00	0.1073	0.055146	0.011315	-0.003228	0.00267	9.151	2.127	1.146	0.734	0.101	2.02	-0.144	0.059
-0.	0.0371	0.055343	0.008086	-0.001405	0.00627	3.369	2.359	4.217	1.062	0.172	2.47	-0.243	0.120
4.00	-0.0294	0.054580	0.005982	0.000851	0.01613	-2.090	2.568	7.743	1.491	0.223	3.39	-0.178	0.265
8.00	-0.0935	0.054837	0.004718	0.003770	0.02742	-7.362	2.798	11.238	1.814	0.187	4.59	-0.048	0.399
$\frac{C'_L}{\sigma} = 0.06$													
-4.00	0.1113	0.060359	0.012733	-0.003824	0.00419	9.516	2.401	1.613	0.844	0.122	2.28	-0.174	0.072
-0.	0.0419	0.060053	0.009242	-0.001725	0.00935	3.835	2.599	4.746	1.181	0.186	2.80	-0.228	0.155
4.00	-0.0239	0.059847	0.007010	0.000980	0.02039	-1.606	2.821	8.329	1.594	0.213	3.84	-0.147	0.312
8.00	-0.0873	0.059820	0.005689	0.004203	0.03187	-6.824	3.041	11.838	1.895	0.163	5.10	-0.010	0.440

TABLE 3.- Continued

CALCULATED CHARACTERISTICS OF A ROTOR HAVING RECTANGULAR BLADES WITH A LINEAR TWIST OF 0°

(m) $\frac{V}{\Omega R} = 0.70$; $M_{(1.0,90°)} = 0.9$

$\theta_{.75R}$, deg	λ	$\frac{C'_L}{\sigma}$	$\frac{C'_D}{\sigma}$	$\frac{C_Q}{\sigma}$	$\frac{bC_{Q,D}}{\sigma}$	α_c, deg	a_0, deg	a_1, deg	a_2, deg	a_3, deg	b_1, deg	b_2, deg	b_3, deg
$\frac{C'_L}{\sigma} = 0$													
-4.00	0.0709	0.000098	0.003583	0.002839	0.00088	5.747	-0.564	-3.097	-0.343	-0.069	-0.62	0.143	-0.044
-0.	0.	-0.000027	0.003197	0.002745	0.00086	-0.000	-0.275	0.012	-0.012	0.003	-0.21	-0.021	-0.006
4.00	-0.0699	-0.000052	0.003594	0.002838	0.00087	-5.739	0.317	3.135	0.326	0.077	0.21	-0.180	0.034
8.00	-0.1402	0.000310	0.004179	0.002971	0.00099	-11.567	0.289	6.044	0.597	0.135	0.60	-0.296	0.081
12.00	-0.2091	0.000036	0.004945	0.003415	0.00142	-17.390	0.560	8.980	0.882	0.185	1.02	-0.412	0.113
16.00	-0.2754	-0.000475	0.005468	0.004083	0.00279	-23.370	0.832	11.706	1.113	0.210	1.48	-0.447	0.155
$\frac{C'_L}{\sigma} = 0.01$													
-4.00	0.0763	0.010123	0.004324	0.002370	0.00090	6.321	-0.052	-2.401	-0.165	-0.043	-0.14	0.091	-0.031
-0.	0.0056	0.010005	0.003500	0.002665	0.00087	0.517	0.214	0.586	0.132	0.024	0.23	-0.056	0.008
4.00	-0.0637	0.009907	0.003347	0.002995	0.00089	-5.169	0.528	3.827	0.504	0.103	0.69	-0.230	0.047
8.00	-0.1342	0.010346	0.003395	0.003474	0.00108	-11.011	0.796	6.681	0.755	0.158	1.07	-0.335	0.095
12.00	-0.2031	0.010041	0.003693	0.004264	0.00197	-16.813	1.069	9.627	1.040	0.205	1.52	-0.432	0.133
16.00	-0.2695	0.010078	0.003804	0.005644	0.00590	-22.591	1.314	12.530	1.303	0.226	2.16	-0.406	0.207
$\frac{C'_L}{\sigma} = 0.02$													
-4.00	0.0826	0.020207	0.005488	0.001655	0.00095	6.902	0.460	-1.692	0.016	-0.016	0.34	0.037	-0.018
-0.	0.0115	0.020239	0.004132	0.002287	0.00089	1.057	0.717	1.200	0.285	0.047	0.69	-0.097	0.022
4.00	-0.0575	0.019969	0.003629	0.002813	0.00098	-4.601	1.042	4.507	0.680	0.129	1.18	-0.277	0.060
8.00	-0.1284	0.020273	0.003021	0.003737	0.00135	-10.460	1.298	7.312	0.914	0.180	1.55	-0.368	0.111
12.00	-0.1963	0.020031	0.002763	0.005002	0.00371	-16.227	1.571	10.300	1.207	0.225	2.08	-0.424	0.165
16.00	-0.2614	0.020183	0.002542	0.007076	0.01174	-21.860	1.794	13.338	1.487	0.230	2.96	-0.306	0.270

TABLE 3. - Continued

CALCULATED CHARACTERISTICS OF A ROTOR HAVING RECTANGULAR BLADES WITH A LINEAR TWIST OF 0°

(m) $\frac{V}{\Omega R} = 0.70$; $M_{(1.0,90°)} = 0.9$ - Continued

$\theta_{.75R}$, deg	λ	$\frac{C'_L}{\sigma}$	$\frac{C'_D}{\sigma}$	$\frac{C_Q}{\sigma}$	$\frac{bC_{Q,D}}{\sigma}$	α_c, deg	a_0, deg	a_1, deg	a_2, deg	a_3, deg	b_1, deg	b_2, deg	b_3, deg
$\frac{C'_L}{\sigma} = 0.03$													
-4.00	0.0891	0.030378	0.007056	0.000727	0.00107	7.501	0.975	-0.945	0.207	0.013	0.83	-0.022	-0.005
-0.	0.0174	0.029993	0.005095	0.001719	0.00094	1.601	1.192	1.861	0.454	0.073	1.15	-0.137	0.040
4.00	-0.0515	0.029902	0.004272	0.002444	0.00120	-4.046	1.535	5.172	0.859	0.160	1.67	-0.309	0.076
8.00	-0.1223	0.029793	0.003071	0.003826	0.00206	-9.901	1.768	7.976	1.088	0.205	2.06	-0.376	0.139
12.00	-0.1889	0.029748	0.002507	0.005873	0.01006	-15.501	2.006	11.160	1.426	0.245	2.87	-0.320	0.240
16.00	-0.2524	0.029739	0.002195	0.008552	0.02003	-20.983	2.194	14.269	1.676	0.206	4.02	-0.137	0.365
$\frac{C'_L}{\sigma} = 0.04$													
-4.00	0.0956	0.039995	0.008899	-0.000280	0.00126	8.091	1.452	-0.173	0.486	0.046	1.31	-0.075	0.013
-0.	0.0242	0.040068	0.006461	0.000976	0.00116	2.215	1.682	2.683	0.674	0.110	1.66	-0.190	0.061
4.00	-0.0441	0.039882	0.005154	0.002234	0.00500	-3.377	2.002	6.097	1.127	0.212	2.30	-0.308	0.118
8.00	-0.1128	0.039698	0.003775	0.004325	0.01163	-9.050	2.192	9.153	1.423	0.249	3.02	-0.253	0.236
12.00	-0.1783	0.039848	0.003061	0.007061	0.02102	-14.529	2.413	12.285	1.682	0.226	4.07	-0.089	0.362
$\frac{C'_L}{\sigma} = 0.045$													
-4.00	0.0990	0.045029	0.010001	-0.000076	0.00142	8.407	1.709	0.243	0.514	0.065	1.56	-0.102	0.024
-0.	0.0279	0.045300	0.007311	0.000573	0.00184	2.552	1.950	3.146	0.796	0.133	1.93	-0.232	0.065
4.00	-0.0396	0.044871	0.005761	0.002243	0.00877	-2.985	2.220	6.633	1.266	0.229	2.70	-0.271	0.166
8.00	-0.1066	0.044682	0.004511	0.004764	0.01806	-8.506	2.399	9.871	1.587	0.238	3.64	-0.162	0.305
12.00	-0.1723	0.044865	0.003616	0.007749	0.02634	-13.993	2.623	12.875	1.791	0.194	4.71	0.011	0.411

TABLE 3. - Continued

CALCULATED CHARACTERISTICS OF A ROTOR HAVING RECTANGULAR BLADES WITH A LINEAR TWIST OF 0°

(m) $\frac{V}{\Omega R} = 0.70$; $M_{(1.0,90°)} = 0.9$ - Concluded

$\theta_{.75R}$, deg	λ	$\frac{C'_L}{\sigma}$	$\frac{C'_D}{\sigma}$	$\frac{C_Q}{\sigma}$	$\frac{bC_{Q,D}}{\sigma}$	α_c, deg	a_0, deg	a_1, deg	a_2, deg	a_3, deg	b_1, deg	b_2, deg	b_3, deg
$\frac{C'_L}{\sigma} = 0.05$													
-4.00	0.1026	0.050072	0.011191	-0.001468	0.00176	8.737	1.955	0.679	0.623	0.085	1.82	-0.128	0.037
-0.	0.0319	0.050429	0.008262	0.000188	0.00369	2.913	2.231	3.653	0.932	0.158	2.24	-0.248	0.087
4.00	-0.0349	0.049723	0.006495	0.002328	0.01300	-2.571	2.425	7.176	1.390	0.233	3.14	-0.219	0.222
8.00	-0.1005	0.049562	0.005360	0.005240	0.02361	-7.969	2.616	10.534	1.712	0.215	4.22	-0.091	0.362
12.00	-0.1660	0.049782	0.004304	0.008459	0.03134	-13.439	2.845	13.489	1.886	0.158	5.32	0.076	0.450
$\frac{C'_L}{\sigma} = 0.055$													
-4.00	0.1064	0.055238	0.012484	-0.002063	0.00270	9.079	2.223	1.130	0.735	0.106	2.09	-0.162	0.047
-0.	0.0364	0.055456	0.009322	-0.000110	0.00667	3.309	2.443	4.216	1.074	0.182	2.59	-0.247	0.124
4.00	-0.0297	0.054850	0.007405	0.002508	0.01751	-2.114	2.664	7.752	1.505	0.229	3.59	-0.182	0.272
8.00	-0.0941	0.054858	0.006342	0.005773	0.02855	-7.408	2.875	11.192	1.817	0.190	4.79	-0.048	0.406
$\frac{C'_L}{\sigma} = 0.06$													
-4.00	0.1102	0.060077	0.013816	-0.002605	0.00425	9.424	2.460	1.594	0.848	0.127	2.7	-0.171	
-0.	0.0411	0.060191	0.01488	-0.000314	0.01011	3.726	2.662	4.790	1.210	0.197	2.99		
4.00	-0.0244	0.059788	0.008433	0.002732	0.02185	-1.652	2.895	8.313	1.601	0.217	4.03	-0.145	0.321
8.00	-0.0879	0.059834	0.007381	0.006310	0.03306	-6.874	3.120	11.801	1.899	0.166	5.30	-0.014	0.446

TABLE 3.- Continued

CALCULATED CHARACTERISTICS OF A ROTOR HAVING RECTANGULAR BLADES WITH A LINEAR TWIST OF 0°

(n) $\frac{V}{\Omega R} = 0.80$; $M_{(1.0,90^{\circ})} = 0.8$

$\theta_{.75R'}$, deg	λ	$\frac{C'_L}{\sigma}$	$\frac{C'_D}{\sigma}$	$\frac{C_Q}{\sigma}$	$\frac{bC_{Q,D}}{\sigma}$	α_c, deg	a_0, deg	a_1, deg	a_2, deg	a_3, deg	b_1, deg	b_2, deg	b_3, deg
$\frac{C'_L}{\sigma} = 0$													
-4.00	0.0748	-0.000002	0.002967	0.001730	0.00096	5.359	-0.713	-3.578	-0.482	-0.094	-0.84	0.131	-0.053
-0.	0.	-0.000065	0.002456	0.001745	0.00034	-0.510	-0.533	0.024	-0.018	0.005	-0.33	-0.035	-0.009
4.00	-0.0749	-0.000432	0.003915	0.001664	0.00036	-5.378	-0.574	3.619	0.452	0.108	0.18	-0.231	0.042
8.00	-0.1513	0.000229	0.004031	0.001547	0.00037	-10.920	0.182	6.673	0.735	0.170	0.56	-0.340	0.103
12.00	-0.2255	0.000174	0.005503	0.001718	0.00143	-16.373	0.443	9.935	1.155	0.236	1.09	-0.471	0.147
$\frac{C'_L}{\sigma} = 0.01$													
-4.00	0.0811	0.009997	0.003536	0.001386	0.00087	5.862	-0.214	-2.787	-0.260	-0.060	-0.31	0.119	-0.034
-0.	0.0053	0.010052	0.002700	0.001617	0.00095	0.420	0.084	0.608	0.140	0.029	0.14	-0.067	0.010
4.00	-0.0687	0.009990	0.002370	0.001637	0.00092	-4.986	0.404	4.400	0.674	0.142	0.71	-0.292	0.061
8.00	-0.1455	0.010287	0.003336	0.001943	0.00112	-10.452	0.655	7.357	0.920	0.197	1.09	-0.380	0.123
12.00	-0.2197	0.010495	0.004443	0.002422	0.00305	-15.492	0.944	10.636	1.296	0.261	1.67	-0.473	0.180
$\frac{C'_L}{\sigma} = 0.02$													
-4.00	0.0873	0.020008	0.004521	0.000757	0.00092	6.357	0.270	-1.989	-0.036	-0.025	0.21	0.056	-0.014
-0.	0.0110	0.020457	0.003250	0.001249	0.00087	0.877	0.574	1.249	0.314	0.057	0.63	-0.108	0.030
4.00	-0.0627	0.019744	0.003315	0.001347	0.00108	-4.427	0.592	5.143	0.590	0.181	1.26	-0.324	0.085
8.00	-0.1398	0.020067	0.003179	0.002074	0.00141	-9.787	1.140	8.045	1.111	0.226	1.61	-0.422	0.140
12.00	-0.2121	0.020077	0.004004	0.003142	0.00984	-15.298	1.354	11.558	1.539	0.285	2.47	-0.370	0.270
$\frac{C'_L}{\sigma} = 0.03$													
-4.00	0.0936	0.030011	0.005844	-0.000065	0.00107	6.857	0.758	-1.173	0.191	0.012	0.73	-0.007	0.008
-0.	0.0165	0.030018	0.004029	0.000742	0.00096	1.319	1.011	1.939	0.506	0.088	1.12	-0.141	0.060
4.00	-0.0556	0.029535	0.003850	0.001344	0.00344	-3.537	1.341	5.893	1.111	0.221	1.83	-0.323	0.130
8.00	-0.1421	0.029634	0.003470	0.002254	0.00633	-9.380	1.550	9.075	1.424	0.274	2.42	-0.336	0.235

TABLE 3.- Continued

CALCULATED CHARACTERISTICS OF A ROTOR HAVING RECTANGULAR BLADES WITH A LINEAR TWIST OF 0°

(n) $\frac{V}{\Omega R} = 0.80$; $M_{(1.0,90°)} = 0.8$ - Concluded

$\theta_{.75R}$, deg	λ	$\frac{C'_L}{\sigma}$	$\frac{C'_D}{\sigma}$	$\frac{C_Q}{\sigma}$	$\frac{bC_{Q,D}}{\sigma}$	α_c, deg	a_0, deg	a_1, deg	a_2, deg	a_3, deg	b_1, deg	b_2, deg	b_3, deg
$\frac{C'_L}{\sigma} = 0.04$													
-4.00	0.1000	0.040041	0.007514	-0.001070	0.00132	7.366	1.256	-0.347	0.416	0.051	1.26	-0.054	0.035
-0.	0.0229	0.040270	0.005193	0.000045	0.00128	1.621	1.506	2.749	0.727	0.127	1.64	-0.205	0.084
4.00	-0.0494	0.039642	0.004656	0.000602	0.00918	-3.368	1.792	6.775	1.347	0.252	2.51	-0.290	0.205
8.00	-0.1016	0.039807	0.004433	0.002726	0.02033	-8.573	1.994	10.362	1.743	0.266	3.51	-0.207	0.359
$\frac{C'_L}{\sigma} = 0.05$													
-4.00	0.1067	0.050339	0.009578	-0.002240	0.00195	7.696	1.770	0.500	0.639	0.091	1.79	-0.127	0.062
-0.	0.0297	0.050125	0.006702	-0.000755	0.00382	2.354	1.967	3.650	0.971	0.170	2.21	-0.235	0.137
4.00	-0.0412	0.049786	0.005843	0.000880	0.01659	-2.729	2.251	7.738	1.567	0.259	3.29	-0.230	0.299
8.00	-0.1109	0.049711	0.005764	0.003393	0.02947	-7.750	2.444	11.524	1.966	0.227	4.57	-0.100	0.459
$\frac{C'_L}{\sigma} = 0.06$													
-4.00	0.1134	0.060077	0.011860	-0.003402	0.00400	8.424	2.242	1.352	0.857	0.130	2.34	-0.157	0.110
-0.	0.0377	0.060289	0.008633	-0.001432	0.00967	2.974	2.455	4.683	1.230	0.207	2.89	-0.243	0.210
4.00	-0.0521	0.059837	0.007474	0.001751	0.02448	-2.041	2.704	8.724	1.750	0.241	4.13	-0.156	0.396

TABLE 3.- Continued

CALCULATED CHARACTERISTICS OF A ROTOR HAVING RECTANGULAR BLADES WITH A LINEAR TWIST OF 0°

(o) $\frac{V}{\Omega R} = 0.80$; $M_{(1.0,90^{\circ})} = 0.85$

$\theta_{.75R}$, deg	λ	$\frac{C'_L}{\sigma}$	$\frac{C'_D}{\sigma}$	$\frac{C_Q}{\sigma}$	$\frac{bC_{Q,D}}{\sigma}$	α_c, deg	a_0, deg	a_1, deg	a_2, deg	a_3, deg	b_1, deg	b_2, deg	b_3, deg
$\frac{C'_L}{\sigma} = 0$													
-4.00	0.0751	0.000464	0.003419	0.002143	0.00086	5.390	-0.641	-3.547	-0.475	-0.098	-0.80	0.120	-0.056
-0.	0.	-0.000037	0.002857	0.002140	0.00083	-0.000	-0.346	0.021	-0.017	0.004	-0.29	-0.032	-0.009
4.00	-0.0749	-0.000435	0.003451	0.002116	0.00086	-5.379	-0.648	3.613	0.454	0.112	0.24	-0.233	0.042
8.00	-0.1513	0.000442	0.004469	0.002079	0.00099	-10.919	0.228	6.659	0.732	0.175	0.64	-0.360	0.095
12.00	-0.2256	0.000000	0.006018	0.002234	0.00158	-16.389	0.430	9.952	1.104	0.243	1.17	-0.478	0.149
$\frac{C'_L}{\sigma} = 0.01$													
-4.00	0.0810	0.009788	0.003964	0.001808	0.00087	5.858	-0.171	-2.792	-0.261	-0.064	-0.29	0.125	-0.034
-0.	0.0052	0.010712	0.003122	0.002034	0.00085	0.420	0.127	0.601	0.141	0.030	0.18	-0.066	0.010
4.00	-0.0687	0.009569	0.003413	0.002081	0.00093	-4.890	0.451	4.394	0.676	0.147	0.77	-0.297	0.061
8.00	-0.1456	0.010433	0.003851	0.002442	0.00117	-10.456	0.721	7.339	0.920	0.204	1.16	-0.402	0.115
12.00	-0.2134	0.010258	0.005067	0.002963	0.00344	-15.682	0.978	10.688	1.307	0.273	1.77	-0.483	0.186
$\frac{C'_L}{\sigma} = 0.02$													
-4.00	0.0872	0.019985	0.004936	0.001178	0.00092	6.348	0.322	-2.000	-0.037	-0.027	0.24	0.060	-0.015
-0.	0.0106	0.020424	0.003672	0.001671	0.00087	0.866	0.019	1.239	0.315	0.056	0.67	-0.109	0.029
4.00	-0.0628	0.019761	0.003772	0.001799	0.00111	-4.416	0.940	5.123	0.891	0.186	1.32	-0.331	0.085
8.00	-0.1399	0.020119	0.003659	0.002575	0.00157	-9.995	1.132	8.031	1.115	0.234	1.68	-0.433	0.140
12.00	-0.2121	0.020074	0.004550	0.003780	0.01037	-15.301	1.401	11.535	1.540	0.294	2.56	-0.381	0.272
$\frac{C'_L}{\sigma} = 0.03$													
-4.00	0.0934	0.030002	0.006252	0.000352	0.00106	6.845	0.811	-1.191	0.189	0.011	0.76	-0.006	0.006
-0.	0.0163	0.029989	0.004452	0.001170	0.00095	1.305	1.057	1.922	0.506	0.090	1.16	-0.145	0.058
4.00	-0.0567	0.029535	0.004315	0.001518	0.00338	-3.938	1.386	5.869	1.113	0.228	1.89	-0.330	0.130
8.00	-0.1322	0.029643	0.003975	0.002828	0.00902	-9.386	1.595	9.050	1.425	0.282	2.50	-0.344	0.238

TABLE 3. - Continued

CALCULATED CHARACTERISTICS OF A ROTOR HAVING RECTANGULAR BLADES WITH A LINEAR TWIST OF 0°

(o) $\frac{V}{\Omega R} = 0.80$; $M_{(1.0,90°)} = 0.85$ - Concluded

$\theta_{.75R}$, deg	λ	$\frac{C'_L}{\sigma}$	$\frac{C'_D}{\sigma}$	$\frac{C_Q}{\sigma}$	$\frac{bC_{Q,D}}{\sigma}$	α_c, deg	a_0, deg	a_1, deg	a_2, deg	a_3, deg	b_1, deg	b_2, deg	b_3, deg
$\frac{C'_L}{\sigma} = 0.04$													
-4.00	0.0997	0.040024	0.007915	-0.000655	0.00129	7.343	1.298	-0.374	0.413	0.050	1.29	-0.065	0.033
-0.	0.0227	0.040370	0.005638	0.000465	0.00128	1.808	1.557	2.735	0.729	0.130	1.69	-0.211	0.083
4.00	-0.0495	0.039643	0.005137	0.001371	0.00934	-3.376	1.634	6.746	1.350	0.260	2.59	-0.293	0.207
8.00	-0.1216	0.039734	0.004996	0.003414	0.02079	-6.574	2.034	10.312	1.742	0.273	3.61	-0.212	0.361
$\frac{C'_L}{\sigma} = 0.05$													
-4.00	0.1064	0.050336	0.009977	-0.001832	0.00187	7.375	1.812	0.470	0.638	0.092	1.83	-0.129	0.060
-0.	0.0294	0.050130	0.007130	-0.000312	0.00377	2.333	2.011	3.618	0.971	0.175	2.27	-0.240	0.135
4.00	-0.0412	0.049795	0.006355	0.001484	0.01698	-2.732	2.292	7.699	1.569	0.266	3.39	-0.230	0.303
8.00	-0.1108	0.049726	0.006404	0.004190	0.02984	-7.747	2.485	11.458	1.964	0.234	4.68	-0.104	0.462
$\frac{C'_L}{\sigma} = 0.06$													
-4.00	0.1130	0.060077	0.012245	-0.002978	0.00398	8.402	2.283	1.319	0.857	0.133	2.39	-0.160	0.108
-0.	0.0375	0.060321	0.007063	-0.000936	0.00988	2.957	2.498	4.654	1.235	0.213	2.96	-0.246	0.211
4.00	-0.0321	0.059827	0.008024	0.001746	0.02499	-2.032	2.743	8.673	1.750	0.247	4.23	-0.157	0.399

TABLE 3.- Continued

CALCULATED CHARACTERISTICS OF A ROTOR HAVING RECTANGULAR BLADES WITH A LINEAR TWIST OF 0°

(p) $\frac{V}{\Omega R} = 0.80$; $M_{(1.0,90°)} = 0.9$

$\theta_{.75R}$, deg	λ	$\frac{C'_L}{\sigma}$	$\frac{C'_D}{\sigma}$	$\frac{C_Q}{\sigma}$	$\frac{bC_{Q,D}}{\sigma}$	α_c, deg	a_0, deg	a_1, deg	a_2, deg	a_3, deg	b_1, deg	b_2, deg	b_3, deg
$\frac{C'_L}{\sigma} = 0$													
-4.00	0.0750	0.000375	0.004397	0.003691	0.00086	5.386	-0.608	-3.542	-0.477	-0.102	-0.78	0.100	-0.056
-0.	0.	-0.000039	0.003785	0.003038	0.00063	-0.590	-0.509	0.017	-0.016	0.004	-0.26	-0.029	-0.009
4.00	-0.0749	-0.000345	0.004429	0.003070	0.00086	-5.575	-0.007	3.600	0.458	0.114	0.29	-0.238	0.043
8.00	-0.1515	0.000215	0.005525	0.003064	0.00100	-10.924	0.248	5.617	0.734	0.180	0.68	-0.364	0.099
12.00	-0.2256	0.000053	0.007091	0.003307	0.00178	-16.391	0.519	9.906	1.112	0.253	1.22	-0.494	0.151
$\frac{C'_L}{\sigma} = 0.01$													
-4.00	0.0811	0.010420	0.004964	0.002716	0.00086	5.871	-0.105	-2.753	-0.254	-0.066	-0.25	0.122	-0.038
-0.	0.0051	0.009958	0.004079	0.002964	0.00085	0.412	0.163	0.596	0.142	0.030	0.21	-0.054	0.010
4.00	-0.0688	0.009664	0.004402	0.003351	0.00093	-4.894	0.493	4.382	0.680	0.151	0.82	-0.302	0.061
8.00	-0.1456	0.010494	0.004478	0.003436	0.00122	-10.457	0.750	7.328	0.933	0.212	1.23	-0.339	0.127
12.00	-0.2195	0.010236	0.006164	0.004093	0.00368	-15.889	1.038	10.643	1.312	0.279	1.83	-0.491	0.191
$\frac{C'_L}{\sigma} = 0.02$													
-4.00	0.0870	0.019979	0.005903	0.002108	0.00092	6.335	0.362	-1.937	-0.037	-0.030	0.26	0.064	-0.016
-0.	0.0106	0.020359	0.004631	0.002607	0.00087	0.651	0.656	1.235	0.316	0.058	0.71	-0.103	0.029
4.00	-0.0630	0.019841	0.004778	0.002779	0.00113	-4.425	0.963	5.139	0.694	0.190	1.37	-0.338	0.085
8.00	-0.1400	0.020243	0.004695	0.003623	0.00177	-10.002	1.234	8.012	1.123	0.241	1.75	-0.441	0.143
12.00	-0.2122	0.020192	0.005676	0.004998	0.01034	-15.367	1.439	11.505	1.545	0.297	2.64	-0.386	0.278
$\frac{C'_L}{\sigma} = 0.03$													
-4.00	0.0931	0.029984	0.007218	0.001276	0.00105	6.823	0.853	-1.173	0.188	0.009	0.79	-0.003	0.004
-0.	0.0161	0.030103	0.005433	0.002104	0.00095	1.271	1.111	1.931	0.511	0.092	1.20	-0.154	0.055
4.00	-0.0570	0.029535	0.005334	0.002528	0.00345	-3.735	1.429	5.862	1.118	0.233	1.95	-0.336	0.130
8.00	-0.1325	0.029661	0.005044	0.003965	0.00923	-9.434	1.832	9.023	1.429	0.286	2.57	-0.348	0.242

TABLE 3. - Continued

CALCULATED CHARACTERISTICS OF A ROTOR HAVING RECTANGULAR BLADES WITH A LINEAR TWIST OF 0°

(p) $\frac{V}{\Omega R} = 0.80$; $M_{(1.0,90°)} = 0.9$ - Concluded

$\theta_{.75R}$, deg	λ	$\frac{C'_L}{\sigma}$	$\frac{C'_D}{\sigma}$	$\frac{C_Q}{\sigma}$	$\frac{bC_{Q,D}}{\sigma}$	α_c, deg	a_0, deg	a_1, deg	a_2, deg	a_3, deg	b_1, deg	b_2, deg	b_3, deg
$\frac{C'_L}{\sigma} = 0.04$													
-4.00	0.0994	0.040140	0.008933	0.000250	0.00125	7.325	1.354	-0.354	0.415	0.055	1.35	-0.070	0.027
-0.	0.0223	0.040352	0.006613	0.001405	0.00128	1.731	1.690	0.736	0.722	0.133	1.74	-0.214	0.082
4.00	-0.0492	0.039650	0.006180	0.002466	0.00257	-3.337	1.874	6.743	1.356	0.263	2.66	-0.292	0.211
8.00	-0.1219	0.039803	0.006151	0.004584	0.02134	-8.595	2.072	10.306	1.745	0.273	3.75	-0.209	0.366
$\frac{C'_L}{\sigma} = 0.05$													
-4.00	0.1059	0.050331	0.010947	-0.000924	0.00185	7.841	1.857	0.496	0.648	0.092	1.57	-0.178	0.057
-0.	0.0290	0.050139	0.008120	0.000646	0.00383	2.302	2.055	3.625	0.975	0.176	2.52	-0.242	0.135
4.00	-0.0415	0.049807	0.007448	0.002652	0.01752	-3.754	2.333	7.713	1.575	0.266	3.48	-0.285	0.307
8.00	-0.1112	0.049749	0.007654	0.005580	0.03042	-7.775	2.525	11.496	1.987	0.221	4.78	-0.098	0.465
$\frac{C'_L}{\sigma} = 0.06$													
-4.00	0.1125	0.060079	0.013213	-0.002052	0.00407	8.364	2.327	1.345	0.862	0.135	2.44	-0.160	0.107
-0.	0.0372	0.060473	0.010102	0.000031	0.01032	2.537	2.551	4.689	1.243	0.216	3.05	-0.245	0.214
4.00	-0.0324	0.059839	0.009184	0.003018	0.02563	-2.356	2.788	8.701	1.755	0.244	4.34	-0.151	0.403

TABLE 3.- Continued

CALCULATED CHARACTERISTICS OF A ROTOR HAVING RECTANGULAR BLADES WITH A LINEAR TWIST OF 0°

(q) $\frac{V}{\Omega R} = 1.0$; $M_{(1.0, 90^\circ)} = 0.8$

$\theta_{.75R}$, deg	λ	$\frac{C'_L}{\sigma}$	$\frac{C'_D}{\sigma}$	$\frac{C_Q}{\sigma}$	$\frac{bC_{Q,D}}{\sigma}$	α_c, deg	a_0, deg	a_1, deg	a_2, deg	a_3, deg	b_1, deg	b_2, deg	b_3, deg
$\frac{C'_L}{\sigma} = 0$													
-4.00	0.0846	-0.000071	0.004896	0.001430	0.00098	4.856	-0.364	-4.937	-0.997	-0.222	-1.35	0.364	-0.076
-2.00	0.0420	0.000072	0.004017	0.001793	0.00082	2.410	-0.691	-2.529	-0.547	-0.115	-0.95	0.162	-0.047
-0.	0.	-0.000063	0.003438	0.002035	0.00079	-0.000	-0.486	0.036	-0.036	0.007	-0.48	-0.059	-0.015
2.00	-0.0419	0.000008	0.004051	0.001730	0.00083	-2.401	-0.275	2.627	0.483	0.130	0.01	-0.278	0.019
4.00	-0.0843	-0.000052	0.004951	0.001332	0.00109	-4.838	-0.125	5.087	0.963	0.247	0.46	-0.451	0.066
6.00	-0.1302	-0.000018	0.006039	0.001114	0.00105	-7.484	-0.044	6.487	1.045	0.278	0.60	-0.475	0.107
$\frac{C'_L}{\sigma} = 0.01$													
-4.00	0.0899	0.010174	0.004940	0.001535	0.00085	5.198	-0.376	-4.127	-0.729	-0.171	-0.76	0.293	-0.051
-2.00	0.0461	0.009835	0.004046	0.001843	0.00081	2.673	-0.243	-2.040	-0.395	-0.088	-0.45	0.146	-0.017
-0.	0.0042	0.009995	0.003663	0.001925	0.00081	0.269	-0.033	0.541	0.122	0.035	0.04	-0.069	0.020
2.00	-0.0377	0.009872	0.004158	0.001531	0.00092	-2.133	0.177	3.134	0.645	0.161	0.33	-0.298	0.054
4.00	-0.0794	0.010274	0.005105	0.001153	0.00368	-4.530	0.351	5.705	1.101	0.282	1.06	-0.447	0.117
6.00	-0.1242	0.009515	0.00619	0.00119	0.00660	-7.110	0.376	7.477	1.372	0.333	1.31	-0.480	0.188
$\frac{C'_L}{\sigma} = 0.02$													
-4.00	0.0954	0.020177	0.005442	0.001309	0.00081	5.535	0.103	-3.221	-0.436	-0.117	-0.16	0.207	-0.017
-2.00	0.0506	0.019987	0.004317	0.001706	0.00080	2.959	0.223	-1.465	-0.220	-0.058	0.07	0.113	0.015
-0.	0.0085	0.020062	0.004033	0.001658	0.00084	0.543	0.429	1.062	0.288	0.065	0.55	-0.092	0.051
2.00	-0.0333	0.019951	0.004444	0.001301	0.00114	-1.853	0.630	3.675	0.815	0.193	1.06	-0.293	0.096
4.00	-0.0747	0.020031	0.005335	0.000981	0.00716	-4.232	0.787	6.291	1.343	0.311	1.66	-0.417	0.179
6.00	-0.1173	0.019736	0.006354	0.001179	0.01451	-6.664	0.824	8.470	1.680	0.358	2.16	-0.426	0.290

TABLE 3.- Continued

CALCULATED CHARACTERISTICS OF A ROTOR HAVING RECTANGULAR BLADES WITH A LINEAR TWIST OF 0°

(q) $\frac{V}{\Omega R} = 1.0$; $M_{(1.0,90°)} = 0.8$ - Concluded

$\theta_{.75R}$, deg	λ	$\frac{C'_L}{\sigma}$	$\frac{C'_D}{\sigma}$	$\frac{C_Q}{\sigma}$	$\frac{bC_{Q,D}}{\sigma}$	α_c, deg	a_0, deg	a_1, deg	a_2, deg	a_3, deg	b_1, deg	b_2, deg	b_3, deg
$\frac{C'_L}{\sigma} = 0.03$													
-4.00	0.1005	0.030169	0.006368	0.000705	0.00085	5.679	0.581	-2.342	-0.156	-0.065	0.43	-0.124	0.018
-2.00	0.0553	0.029968	0.004368	0.001331	0.00082	3.259	0.672	-0.755	-0.014	-0.021	0.60	0.065	0.055
-0.	0.0129	0.029974	0.004587	0.001240	0.00091	0.823	0.861	1.639	0.458	0.097	1.07	-0.194	0.038
2.00	-0.0287	0.030009	0.004943	0.000898	0.00266	-1.561	1.067	4.265	0.996	0.226	1.62	-0.287	0.151
4.00	-0.0697	0.029846	0.005834	0.000874	0.01172	-3.914	1.208	6.913	1.522	0.330	2.28	-0.371	0.256
6.00	-0.1106	0.029568	0.006922	0.001399	0.02212	-6.271	1.255	9.294	1.904	0.356	3.00	-0.336	0.391
$\frac{C'_L}{\sigma} = 0.04$													
-4.00	0.1062	0.040210	0.007628	-0.000156	0.00100	6.213	1.059	-1.494	0.109	-0.014	1.01	0.050	0.055
-2.00	0.0605	0.040182	0.005858	0.000659	0.00092	3.586	1.148	0.012	0.229	0.023	1.16	-0.011	0.091
-0.	0.0176	0.040160	0.005369	0.000636	0.00117	1.124	1.331	2.262	0.645	0.132	1.59	-0.154	0.133
2.00	-0.0241	0.039921	0.005591	0.000508	0.00535	-1.268	1.505	4.870	1.171	0.258	2.15	-0.236	0.203
4.00	-0.0638	0.039753	0.006538	0.000836	0.01809	-3.547	1.636	7.618	1.703	0.336	3.00	-0.294	0.355
6.00	-0.1035	0.039913	0.007763	0.001743	0.02908	-5.829	1.725	10.094	2.030	0.343	3.85	-0.253	0.481
$\frac{C'_L}{\sigma} = 0.05$													
-2.00	0.0660	0.050417	0.007206	-0.000267	0.00124	3.934	1.628	0.880	0.493	0.074	1.74	-0.088	0.133
-0.	0.0226	0.050048	0.006403	-0.000013	0.00226	1.436	1.777	2.991	0.850	0.171	2.14	-0.190	0.185
2.00	-0.0185	0.049713	0.006547	0.000099	0.01044	-0.921	1.943	5.605	1.373	0.286	2.80	-0.263	0.293
4.00	-0.0574	0.049927	0.007521	0.000912	0.02449	-3.150	2.089	8.345	1.868	0.331	3.76	-0.226	0.446
6.00	-0.0964	0.049865	0.008858	0.002132	0.03566	-5.391	2.181	10.834	2.239	0.323	4.68	-0.170	0.565
$\frac{C'_L}{\sigma} = 0.06$													
-2.00	0.0715	0.060092	0.008805	-0.001319	0.00223	4.275	2.079	1.734	0.752	0.126	2.33	-0.137	0.189
-0.	0.0282	0.060387	0.007780	-0.000805	0.00553	1.791	2.256	3.810	1.081	0.214	2.74	-0.225	0.250
2.00	-0.0123	0.059905	0.007806	-0.000170	0.01699	-0.535	2.398	6.390	1.566	0.298	3.51	-0.223	0.386
4.00	-0.0508	0.059549	0.008763	0.001054	0.03036	-2.746	2.513	9.049	2.006	0.314	4.50	-0.151	0.534
6.00	-0.0889	0.059916	0.010255	0.002574	0.04233	-4.934	2.653	11.564	2.365	0.300	5.51	-0.092	0.640

TABLE 3. - Continued

CALCULATED CHARACTERISTICS OF A ROTOR HAVING RECTANGULAR BLADES WITH A LINEAR TWIST OF 0°

(r) $\frac{V}{\Omega R} = 1.0$; $M_{(1.0, 90°)} = 0.85$

$\theta_{.75R}$, deg	λ	$\frac{C'_L}{\sigma}$	$\frac{C'_D}{\sigma}$	$\frac{C_Q}{\sigma}$	$\frac{bC_{Q,D}}{\sigma}$	α_c, deg	a_0, deg	a_1, deg	a_2, deg	a_3, deg	b_1, deg	b_2, deg	b_3, deg
$\frac{C'_L}{\sigma} = 0$													
-4.00	0.0845	-0.000015	0.005491	0.001747	0.00100	4.647	-0.793	-4.933	-0.937	-0.230	-1.33	0.367	-0.081
-2.00	0.0420	0.000133	0.004579	0.002331	0.00032	2.437	-0.633	-2.319	-0.541	-0.119	-0.90	0.174	-0.044
-0.	0.	-0.000115	0.004022	0.002558	0.00079	-0.001	-0.445	0.044	-0.027	0.007	-0.41	-0.040	-0.005
2.00	-0.0419	-0.000054	0.00450	0.002233	0.00083	-2.400	-0.226	2.608	0.433	0.131	0.08	-0.274	0.020
4.00	-0.0842	-0.000052	0.005543	0.001901	0.00111	-4.832	-0.071	5.062	0.963	0.252	0.54	-0.455	0.063
6.00	-0.1303	-0.000359	0.006628	0.001737	0.00110	-7.435	0.000	6.410	1.025	0.279	0.65	-0.486	0.097
$\frac{C'_L}{\sigma} = 0.01$													
-4.00	0.0897	0.010182	0.005518	0.002078	0.00085	5.178	-0.320	-4.119	-0.726	-0.178	-0.73	0.305	-0.048
-2.00	0.0460	0.009864	0.004604	0.002374	0.00081	2.867	-0.165	-2.032	-0.389	-0.091	-0.40	0.155	-0.014
-0.	0.0041	0.009992	0.004210	0.002453	0.00081	0.263	0.021	0.536	0.126	0.035	0.10	-0.063	0.022
2.00	-0.0377	0.009806	0.004724	0.002133	0.00092	-2.134	0.229	3.113	0.645	0.164	0.59	-0.239	0.052
4.00	-0.0793	0.010390	0.005711	0.001737	0.00161	-4.523	0.411	5.679	1.162	0.288	1.15	-0.454	0.113
6.00	-0.1238	0.009886	0.00685	0.001769	0.00861	-7.080	0.457	7.473	1.360	0.343	1.42	-0.499	0.181
$\frac{C'_L}{\sigma} = 0.02$													
-4.00	0.0952	0.020184	0.005999	0.001847	0.00081	5.524	0.158	-3.220	-0.434	-0.122	-0.12	0.216	-0.015
-2.00	0.0504	0.019969	0.004869	0.002233	0.00079	2.950	0.280	-1.461	-0.216	-0.060	0.12	0.119	0.017
-0.	0.0084	0.020095	0.004584	0.002109	0.00084	0.538	0.487	1.057	0.287	0.066	0.61	-0.089	0.052
2.00	-0.0334	0.019919	0.005020	0.001856	0.00114	-1.656	0.664	3.651	0.816	0.197	1.13	-0.236	0.093
4.00	-0.0747	0.020059	0.006013	0.001600	0.00719	-4.227	0.642	6.257	1.344	0.318	1.74	-0.424	0.176
6.00	-0.1171	0.019701	0.007025	0.001892	0.01466	-6.675	0.670	8.421	1.677	0.366	2.26	-0.430	0.290

TABLE 3.- Continued

CALCULATED CHARACTERISTICS OF A ROTOR HAVING RECTANGULAR BLADES WITH A LINEAR TWIST OF 0°

(r) $\frac{V}{\Omega R} = 1.0$; $M_{(1.0, 90°)} = 0.85$ - Concluded

$\theta_{.75R}$, deg	λ	$\frac{C'_L}{\sigma}$	$\frac{C'_D}{\sigma}$	$\frac{C_Q}{\sigma}$	$\frac{bC_{Q,D}}{\sigma}$	α_c, deg	a_0, deg	a_1, deg	a_2, deg	a_3, deg	b_1, deg	b_2, deg	b_3, deg
$\frac{C'_L}{\sigma} = 0.03$													
-4.00	0.1006	0.033171	0.006908	0.001240	0.00085	5.066	0.635	-2.349	-0.155	-0.069	0.47	0.131	0.019
-2.00	0.0552	0.029974	0.005438	0.001054	0.00082	3.250	0.720	-0.773	-0.003	-0.020	0.66	0.080	0.065
-0.	0.0129	0.030392	0.005164	0.001758	0.00092	0.873	0.941	1.652	0.468	0.101	1.15	-0.110	0.097
2.00	-0.0268	0.030000	0.005525	0.001465	0.00251	-1.556	1.133	4.236	0.996	0.233	1.69	-0.299	0.145
4.00	-0.0696	0.029679	0.006471	0.001541	0.01210	-3.903	1.262	6.876	1.523	0.338	2.38	-0.376	0.254
6.00	-0.1102	0.029928	0.007653	0.002211	0.02270	-6.245	1.525	9.262	1.907	0.365	3.12	-0.346	0.389
$\frac{C'_L}{\sigma} = 0.04$													
-4.00	0.1060	0.040208	0.008153	0.000378	0.00099	6.204	1.112	-1.509	0.109	-0.017	1.06	0.055	0.055
-2.00	0.0603	0.040182	0.006396	0.001167	0.00091	3.574	1.201	0.004	0.232	0.023	1.21	-0.009	0.092
-0.	0.0174	0.040164	0.005928	0.001225	0.00116	1.115	1.389	2.267	0.648	0.136	1.66	-0.156	0.132
2.00	-0.0242	0.039567	0.006155	0.001090	0.00530	-1.272	1.503	4.843	1.173	0.265	2.23	-0.303	0.200
4.00	-0.0637	0.039672	0.007204	0.001561	0.01850	-3.542	1.679	7.569	1.703	0.343	3.10	-0.293	0.357
6.00	-0.1034	0.039657	0.008518	0.002605	0.02912	-5.824	1.751	10.009	2.081	0.348	3.95	-0.251	0.482
$\frac{C'_L}{\sigma} = 0.05$													
-2.00	0.0658	0.050402	0.007736	0.000268	0.00121	3.918	1.682	0.859	0.494	0.075	1.90	-0.088	0.133
-0.	0.0224	0.050022	0.006981	0.000511	0.00209	1.426	1.823	2.982	0.859	0.178	2.21	-0.183	0.193
2.00	-0.0186	0.049661	0.007155	0.000722	0.01054	-0.925	1.990	5.571	1.375	0.293	2.89	-0.262	0.295
4.00	-0.0574	0.049729	0.008212	0.001703	0.02472	-3.148	2.121	8.277	1.863	0.336	3.86	-0.223	0.448
6.00	-0.0963	0.049548	0.009660	0.003067	0.03568	-5.388	2.202	10.738	2.229	0.327	4.78	-0.166	0.566
$\frac{C'_L}{\sigma} = 0.06$													
-2.00	0.0712	0.060084	0.009331	-0.000778	0.00207	4.257	2.133	1.700	0.750	0.128	2.39	-0.140	0.187
-0.	0.0280	0.060427	0.008352	-0.000244	0.00554	1.779	2.314	3.782	1.084	0.220	2.82	-0.231	0.247
2.00	-0.0123	0.059906	0.008444	0.000520	0.01758	-0.535	2.447	6.353	1.568	0.305	3.61	-0.221	0.389
4.00	-0.0505	0.059863	0.009553	0.001923	0.03086	-2.725	2.583	9.011	2.011	0.323	4.64	-0.158	0.534
6.00	-0.0888	0.059834	0.011128	0.003597	0.04260	-4.925	2.698	11.486	2.362	0.309	5.62	-0.097	0.640

TABLE 3. - Continued

CALCULATED CHARACTERISTICS OF A ROTOR HAVING RECTANGULAR BLADES WITH A LINEAR TWIST OF 0°

(s) $\frac{V}{\Omega R} = 1.0$; $M_{(1.0, 90°)} = 0.9$

$\theta_{.75R}$, deg	λ	$\frac{C'_L}{\sigma}$	$\frac{C'_D}{\sigma}$	$\frac{C_Q}{\sigma}$	$\frac{bC_{Q,D}}{\sigma}$	α_c, deg	a_0, deg	a_1, deg	a_2, deg	a_3, deg	b_1, deg	b_2, deg	b_3, deg
$\frac{C'_L}{\sigma} = 0$													
-4.00	0.0846	0.000350	0.006789	0.003702	0.00102	4.857	-0.732	-4.894	-0.984	-0.233	-1.28	0.383	-0.074
-2.00	0.0420	0.000244	0.005858	0.003545	0.00082	2.409	-0.583	-2.510	-0.536	-0.121	-0.86	0.185	-0.040
-0.	0.	-0.000053	0.005265	0.003748	0.00079	-0.000	-0.383	0.027	-0.031	0.005	-0.38	-0.049	-0.014
2.00	-0.0415	-0.000140	0.005889	0.003505	0.00083	-2.401	-0.178	2.589	0.484	0.133	0.12	-0.278	0.016
4.00	-0.0841	-0.000021	0.006859	0.003157	0.00113	-4.829	-0.024	5.038	0.963	0.255	0.60	-0.459	0.061
6.00	-0.1301	-0.000053	0.007948	0.002982	0.00114	-7.483	0.056	6.394	1.031	0.284	0.73	-0.493	0.097
$\frac{C'_L}{\sigma} = 0.01$													
-4.00	0.0896	0.010139	0.006815	0.003306	0.00085	5.170	-0.273	-4.109	-0.724	-0.183	-0.70	0.316	-0.045
-2.00	0.0460	0.009887	0.005877	0.003579	0.00081	2.663	-0.138	-2.024	-0.384	-0.093	-0.36	0.164	-0.011
-0.	0.0041	0.010024	0.005467	0.003648	0.00080	0.264	0.069	0.536	0.130	0.035	0.15	-0.058	0.023
2.00	-0.0378	0.009692	0.006008	0.003362	0.00092	-2.140	0.272	3.093	0.645	0.165	0.64	-0.290	0.050
4.00	-0.0795	0.010022	0.007047	0.003010	0.00346	-4.536	0.430	5.640	1.158	0.291	1.19	-0.451	0.114
6.00	-0.1240	0.009567	0.00811	0.003073	0.00655	-7.103	0.475	7.413	1.371	0.345	1.47	-0.493	0.185
$\frac{C'_L}{\sigma} = 0.02$													
-4.00	0.0950	0.020126	0.007274	0.003062	0.00081	5.511	0.204	-3.209	-0.432	-0.126	-0.09	0.225	-0.013
-2.00	0.0502	0.019922	0.006132	0.003432	0.00079	2.939	0.325	-1.455	-0.211	-0.061	0.16	0.126	0.019
-0.	0.0083	0.020113	0.005850	0.003386	0.00083	0.532	0.527	1.062	0.294	0.067	0.67	-0.079	0.058
2.00	-0.0335	0.019840	0.006315	0.003090	0.00115	-1.866	0.730	3.636	0.817	0.199	1.19	-0.299	0.091
4.00	-0.0747	0.020142	0.007364	0.002908	0.00728	-4.231	0.891	6.248	1.349	0.323	1.82	-0.425	0.177
6.00	-0.1172	0.019740	0.008435	0.003317	0.01506	-6.678	0.917	8.404	1.678	0.369	2.34	-0.431	0.291

TABLE 3. - Continued

CALCULATED CHARACTERISTICS OF A ROTOR HAVING RECTANGULAR BLADES WITH A LINEAR TWIST OF 0°

(s) $\frac{V}{\Omega R} = 1.0$; $M_{(1.0, 90°)} = 0.9$ - Concluded

$\theta_{.75R}$, deg	λ	$\frac{C'_L}{\sigma}$	$\frac{C'_D}{\sigma}$	$\frac{C_Q}{\sigma}$	$\frac{bC_{Q,D}}{\sigma}$	α_c, deg	a_0, deg	a_1, deg	a_2, deg	a_3, deg	b_1, deg	b_2, deg	b_3, deg
$\frac{C'_L}{\sigma} = 0.03$													
-4.00	0.1003	0.030125	0.008171	0.002446	0.00085	5.848	0.683	-2.336	-0.153	-0.072	0.51	0.139	0.020
-2.00	0.0551	0.030460	0.006732	0.003020	0.00082	3.251	0.800	-0.733	0.010	-0.020	0.73	0.072	0.062
-0.	0.0126	0.030146	0.006418	0.002973	0.00091	0.809	0.960	1.640	0.469	0.101	1.19	-0.108	0.096
2.00	-0.0290	0.029586	0.006836	0.002709	0.00166	-1.578	1.183	4.230	1.000	0.236	1.75	-0.303	0.143
4.00	-0.0697	0.029733	0.007848	0.002902	0.01257	-3.915	1.310	6.874	1.529	0.341	2.46	-0.374	0.257
6.00	-0.1106	0.029503	0.009109	0.003703	0.02264	-6.268	1.341	9.224	1.901	0.363	3.20	-0.334	0.393
$\frac{C'_L}{\sigma} = 0.04$													
-4.00	0.1056	0.040168	0.009411	0.001578	0.00099	6.181	1.162	-1.497	0.112	-0.019	1.10	0.061	0.055
-2.00	0.0600	0.040150	0.007657	0.002283	0.00090	3.555	1.251	0.014	0.237	0.023	1.26	-0.006	0.093
-0.	0.0171	0.040130	0.007209	0.002434	0.00116	1.097	1.439	2.270	0.653	0.137	1.71	-0.157	0.132
2.00	-0.0243	0.039747	0.007525	0.002346	0.00553	-1.281	1.622	4.853	1.183	0.270	2.32	-0.305	0.201
4.00	-0.0639	0.039710	0.008628	0.002997	0.01915	-3.552	1.729	7.573	1.708	0.344	3.20	-0.288	0.359
6.00	-0.1035	0.039930	0.010080	0.004211	0.02970	-5.629	1.821	10.028	2.089	0.348	4.08	-0.248	0.483
$\frac{C'_L}{\sigma} = 0.05$													
-4.00	0.1109	0.050257	0.010954	0.000524	0.00126	6.515	1.645	-0.680	0.363	0.033	1.69	-0.007	0.094
-2.00	0.0653	0.050354	0.008998	0.001468	0.00119	3.893	1.733	0.865	0.497	0.075	1.85	-0.086	0.132
-0.	0.0220	0.050081	0.008274	0.001737	0.00174	1.405	1.892	2.980	0.861	0.180	2.27	-0.198	0.183
2.00	-0.0185	0.049667	0.008510	0.002038	0.01081	-0.942	2.040	5.580	1.383	0.296	2.98	-0.259	0.297
4.00	-0.0577	0.049521	0.009677	0.003208	0.02515	-3.169	2.158	8.277	1.866	0.334	3.96	-0.211	0.452
$\frac{C'_L}{\sigma} = 0.06$													
-4.00	0.1160	0.060009	0.012712	-0.000621	0.00178	6.840	2.108	0.101	0.598	0.083	2.27	-0.057	0.141
-2.00	0.0707	0.060074	0.010606	0.000422	0.00198	4.227	2.187	1.707	0.753	0.126	2.44	-0.140	0.185
-0.	0.0276	0.060436	0.009663	0.000993	0.00571	1.754	2.369	3.795	1.092	0.223	2.89	-0.231	0.248
2.00	-0.0126	0.059920	0.009844	0.001915	0.01840	-0.553	2.499	6.373	1.576	0.305	3.72	-0.214	0.393
4.00	-0.0508	0.059885	0.011106	0.003516	0.03139	-2.742	2.638	9.034	2.015	0.319	4.76	-0.147	0.537

TABLE 3.- Continued

CALCULATED CHARACTERISTICS OF A ROTOR HAVING RECTANGULAR BLADES WITH A LINEAR TWIST OF 0°

(t) $\frac{V}{\Omega R} = 1.2$; $M_{(1.0, 90°)} = 0.8$

$\theta_{.75R}$, deg	λ	$\frac{C'_L}{\sigma}$	$\frac{C'_D}{\sigma}$	$\frac{C_Q}{\sigma}$	$\frac{bC_{Q,D}}{\sigma}$	α_c, deg	a_0, deg	a_1, deg	a_2, deg	a_3, deg	b_1, deg	b_2, deg	b_3, deg
$\frac{C'_L}{\sigma} = 0$													
-4.00	0.0964	0.000041	0.007614	0.000607	0.00872	4.611	-0.951	-6.272	-1.621	-0.391	-2.00	0.476	-0.168
-2.00	0.0482	-0.000285	0.005818	0.001578	0.00089	2.304	-0.817	-3.146	-0.863	-0.205	-1.32	0.235	-0.075
-0.	0.	0.000028	0.004782	0.002283	0.00075	0.000	-0.585	0.035	-0.077	-0.000	-0.65	-0.098	-0.026
2.00	-0.0481	0.000170	0.005770	0.001611	0.00108	-2.300	-0.356	3.241	0.721	0.209	0.03	-0.425	0.029
4.00	-0.0961	-0.000032	0.007555	0.000729	0.01030	-4.595	-0.225	6.410	1.498	0.396	0.76	-0.644	0.134
6.00	-0.1451	-0.000252	0.009752	0.000401	0.02130	-6.951	-0.251	8.903	1.961	0.475	1.36	-0.658	0.284
$\frac{C'_L}{\sigma} = 0.01$													
-4.00	0.1001	0.010069	0.007515	0.000707	0.00571	4.807	-0.496	-5.833	-1.458	-0.363	-1.38	0.831	-0.101
-2.00	0.0516	0.009832	0.005795	0.001704	0.00081	2.483	-0.363	-2.752	-0.713	-0.173	-0.75	0.265	-0.026
-0.	0.0032	0.009881	0.004886	0.002209	0.00077	0.173	-0.138	0.411	0.065	0.030	-0.11	-0.077	0.017
2.00	-0.0448	0.010195	0.005864	0.001441	0.00201	-2.119	0.093	3.644	0.875	0.242	0.60	-0.391	0.082
4.00	-0.0922	0.010011	0.007738	0.000673	0.01435	-4.390	0.216	6.864	1.659	0.416	1.41	-0.568	0.214
6.00	-0.1401	0.009546	0.010018	0.000672	0.02757	-6.692	0.202	9.564	2.175	0.477	2.13	-0.603	0.363
$\frac{C'_L}{\sigma} = 0.02$													
-4.00	0.1037	0.019898	0.007525	0.000790	0.00350	4.999	-0.043	-5.349	-1.286	-0.331	-0.78	0.560	-0.044
-2.00	0.0548	0.019752	0.005871	0.001741	0.00078	2.660	0.084	-2.361	-0.566	-0.142	-0.20	0.288	0.021
-0.	0.0065	0.019840	0.005173	0.001997	0.00079	0.350	0.311	0.801	0.210	0.061	0.43	-0.056	0.064
2.00	-0.0414	0.020116	0.006101	0.001176	0.00331	-1.937	0.538	4.059	1.027	0.274	1.16	-0.357	0.138
4.00	-0.0882	0.020022	0.008045	0.000658	0.01908	-4.175	0.649	7.329	1.810	0.428	2.07	-0.484	0.298
6.00	-0.1350	0.019744	0.010489	0.000989	0.03333	-6.423	0.658	10.164	2.355	0.471	2.93	-0.506	0.453

TABLE 3. - Continued

CALCULATED CHARACTERISTICS OF A ROTOR HAVING RECTANGULAR BLADES WITH A LINEAR TWIST OF 0°

(t) $\frac{V}{\Omega R} = 1.2$; $M_{(1.0, 90°)} = 0.8$ - Concluded

$\theta_{.75R}$, deg	λ	$\frac{C'_L}{\sigma}$	$\frac{C'_D}{\sigma}$	$\frac{C_Q}{\sigma}$	$\frac{bC_{Q,D}}{\sigma}$	α_c, deg	a_0, deg	a_1, deg	a_2, deg	a_3, deg	b_1, deg	b_2, deg	b_3, deg
$\frac{C'_L}{\sigma} = 0.03$													
-4.00	0.1080	0.030064	0.007822	0.000774	0.00092	5.227	0.416	-4.590	-1.022	-0.287	-0.16	0.495	0.014
-2.00	0.0584	0.030156	0.006114	0.001653	0.00076	2.851	0.555	-1.908	-0.409	-0.110	0.37	0.296	0.074
-0.	0.0099	0.029901	0.005570	0.001683	0.00083	0.531	0.762	1.217	0.357	0.093	0.98	-0.042	0.113
2.00	-0.0380	0.029656	0.006468	0.000859	0.00514	-1.755	0.963	4.484	1.175	0.304	1.72	-0.323	0.199
4.00	-0.0837	0.030178	0.008521	0.000695	0.02379	-3.944	1.093	7.825	1.959	0.435	2.77	-0.393	0.390
6.00	-0.1298	0.029667	0.011116	0.001347	0.03872	-6.157	1.110	10.709	2.502	0.463	3.70	-0.411	0.535
$\frac{C'_L}{\sigma} = 0.04$													
-4.00	0.1124	0.040077	0.008414	0.000570	0.00078	5.458	0.875	-3.733	-0.726	-0.233	0.45	0.395	0.060
-2.00	0.0619	0.040071	0.006533	0.001415	0.00075	3.039	1.006	-1.415	-0.253	-0.081	0.90	0.271	0.121
-0.	0.0134	0.040080	0.006112	0.001255	0.00094	0.720	1.224	1.682	0.511	0.126	1.53	-0.042	0.166
2.00	-0.0340	0.040043	0.007024	0.000503	0.00845	-1.546	1.425	4.984	1.337	0.335	2.34	-0.285	0.275
4.00	-0.0792	0.039881	0.009162	0.000785	0.02838	-3.709	1.520	8.312	2.089	0.433	3.46	-0.305	0.477
6.00	-0.1244	0.039844	0.012000	0.001736	0.04424	-5.873	1.562	11.257	2.635	0.447	4.51	-0.295	0.626
$\frac{C'_L}{\sigma} = 0.05$													
-4.00	0.1168	0.050108	0.009303	0.000096	0.00075	5.690	1.336	-2.872	-0.422	-0.170	1.06	0.298	0.103
-2.00	0.0657	0.050158	0.007194	0.000981	0.00076	3.241	1.464	-0.823	-0.070	-0.050	1.43	0.213	0.168
-0.	0.0169	0.049801	0.006784	0.000743	0.00119	0.908	1.667	2.164	0.660	0.157	2.05	-0.062	0.214
2.00	-0.0298	0.050340	0.007776	0.000158	0.01316	-1.323	1.876	5.528	1.500	0.358	2.98	-0.233	0.364
4.00	-0.0743	0.050000	0.010039	0.000909	0.03332	-3.454	1.980	8.832	2.216	0.429	4.18	-0.225	0.561
6.00	-0.1189	0.049736	0.013053	0.002144	0.04984	-5.591	2.022	11.774	2.749	0.433	5.29	-0.195	0.703

TABLE 3. - Continued

CALCULATED CHARACTERISTICS OF A ROTOR HAVING RECTANGULAR BLADES WITH A LINEAR TWIST OF 0°

(u) $\frac{V}{\Omega R} = 1.2$; $M_{(1.0, 90°)} = 0.85$

$\theta_{.75R}$, deg	λ	$\frac{C'_L}{\sigma}$	$\frac{C'_D}{\sigma}$	$\frac{C_Q}{\sigma}$	$\frac{bC_{Q,D}}{\sigma}$	α_c, deg	a_0, deg	a_1, deg	a_2, deg	a_3, deg	b_1, deg	b_2, deg	b_3, deg
$\frac{C'_L}{\sigma} = 0$													
-4.00	0.0961	0.000049	0.008414	0.001374	0.00882	4.594	-0.865	-6.247	-1.609	-0.399	-1.96	0.487	-0.166
-2.00	0.0480	-0.000341	0.006543	0.002274	0.00090	2.295	-0.749	-3.134	-0.852	-0.210	-1.26	0.251	-0.070
-0.	0.	0.000089	0.005462	0.002954	0.00075	0.000	-0.510	0.034	-0.069	-0.000	-0.57	-0.090	-0.026
2.00	-0.0480	0.000233	0.006503	0.002302	0.00108	-2.293	-0.289	3.222	0.725	0.213	0.12	-0.419	0.027
4.00	-0.0958	-0.000032	0.008366	0.001490	0.01023	-4.580	-0.175	6.372	1.498	0.403	0.87	-0.636	0.135
6.00	-0.1447	-0.000365	0.010633	0.001305	0.02149	-6.930	-0.203	8.845	1.955	0.483	1.47	-0.658	0.282
$\frac{C'_L}{\sigma} = 0.01$													
-4.00	0.0997	0.010848	0.008293	0.001466	0.00574	4.789	-0.427	-5.805	-1.443	-0.371	-1.33	0.554	-0.091
-2.00	0.0513	0.009793	0.006515	0.002392	0.00082	2.473	-0.296	-2.741	-0.701	-0.176	-0.69	0.280	-0.020
-0.	0.0032	0.009869	0.005587	0.002880	0.00076	0.171	-0.071	0.408	0.074	0.031	-0.04	-0.068	0.019
2.00	-0.0447	0.010234	0.006607	0.002135	0.00139	-2.114	0.159	3.623	0.879	0.246	0.69	-0.387	0.080
4.00	-0.0919	0.010069	0.008554	0.001493	0.01447	-4.374	0.281	6.822	1.659	0.425	1.52	-0.570	0.209
6.00	-0.1394	0.009895	0.010985	0.001662	0.02797	-6.454	0.258	9.534	2.179	0.483	2.29	-0.587	0.371
$\frac{C'_L}{\sigma} = 0.02$													
-4.00	0.1033	0.019911	0.008296	0.001518	0.00345	4.981	0.030	-5.340	-1.271	-0.337	-0.74	0.577	-0.035
-2.00	0.0547	0.020271	0.006556	0.002402	0.00078	2.661	0.179	-2.318	-0.542	-0.142	-0.11	0.299	0.029
-0.	0.0064	0.019832	0.005877	0.002669	0.00079	0.346	0.378	0.797	0.219	0.063	0.51	-0.048	0.065
2.00	-0.0413	0.020145	0.006857	0.001872	0.00314	-1.933	0.603	4.035	1.032	0.280	1.26	-0.356	0.136
4.00	-0.0878	0.020107	0.008887	0.001524	0.01947	-4.158	0.718	7.289	1.813	0.438	2.19	-0.486	0.295
6.00	-0.1344	0.019859	0.011467	0.002034	0.03359	-6.395	0.718	10.102	2.351	0.480	3.07	-0.506	0.450

TABLE 3. - Continued

CALCULATED CHARACTERISTICS OF A ROTOR HAVING RECTANGULAR BLADES WITH A LINEAR TWIST OF 0°

(u) $\frac{V}{\Omega R} = 1.2$: $M_{(1.0,90°)} = 0.85$ - Concluded

$\theta_{.75R}$, deg	λ	$\frac{C'_L}{\sigma}$	$\frac{C'_D}{\sigma}$	$\frac{C_Q}{\sigma}$	$\frac{bC_{Q,D}}{\sigma}$	α_c, deg	a_0, deg	a_1, deg	a_2, deg	a_3, deg	b_1, deg	b_2, deg	b_3, deg
$\frac{C'_L}{\sigma} = 0.03$													
-4.00	0.1076	0.030073	0.008576	0.001475	0.00094	5.209	0.489	-4.565	-1.008	-0.293	-0.11	0.508	0.022
-2.00	0.0582	0.030176	0.006833	0.002325	0.00076	2.840	0.624	-1.892	-0.395	-0.111	0.43	0.307	0.080
-0.	0.0098	0.029895	0.006279	0.002357	0.00083	0.526	0.830	1.213	0.366	0.095	1.06	-0.036	0.115
2.00	-0.0379	0.029623	0.007236	0.001568	0.00502	-1.753	1.024	4.456	1.179	0.311	1.81	-0.322	0.198
4.00	-0.0833	0.030267	0.009403	0.001607	0.02411	-3.925	1.151	7.779	1.959	0.443	2.90	-0.389	0.390
6.00	-0.1293	0.029781	0.012145	0.002455	0.03898	-6.129	1.169	10.640	2.497	0.471	3.84	-0.411	0.533
$\frac{C'_L}{\sigma} = 0.04$													
-4.00	0.1120	0.040077	0.009148	0.001251	0.00078	5.440	0.946	-3.721	-0.717	-0.238	0.90	0.407	0.066
-2.00	0.0617	0.040092	0.007253	0.002079	0.00075	3.027	1.076	-1.398	-0.237	-0.081	0.96	0.279	0.127
-0.	0.0133	0.040106	0.006832	0.001927	0.00094	0.715	1.291	1.681	0.522	0.131	1.62	-0.036	0.170
2.00	-0.0340	0.040068	0.007807	0.001237	0.00846	-1.544	1.488	4.957	1.342	0.343	2.44	-0.283	0.275
4.00	-0.0789	0.039902	0.010081	0.001751	0.02863	-3.491	1.574	8.258	2.088	0.441	3.59	-0.300	0.477
6.00	-0.1238	0.040012	0.013077	0.002908	0.04465	-5.847	1.635	11.184	2.633	0.459	4.65	-0.303	0.619
$\frac{C'_L}{\sigma} = 0.05$													
-4.00	0.1164	0.050120	0.010010	0.000774	0.00075	5.670	1.406	-2.875	-0.418	-0.176	1.11	0.308	0.107
-2.00	0.0654	0.050020	0.007897	0.001642	0.00076	3.225	1.526	-0.817	-0.057	-0.049	1.50	0.222	0.173
-0.	0.0168	0.049762	0.007507	0.001420	0.00118	0.899	1.733	2.155	0.649	0.162	2.13	-0.060	0.215
2.00	-0.0297	0.050304	0.008576	0.000930	0.01330	-1.321	1.932	5.497	1.505	0.365	3.09	-0.228	0.366
4.00	-0.0739	0.050006	0.011003	0.001932	0.03357	-3.436	2.035	8.772	2.215	0.437	4.31	-0.220	0.561
6.00	-0.1184	0.049781	0.014192	0.003383	0.05025	-5.567	2.077	11.692	2.744	0.441	5.43	-0.194	0.700

TABLE 3. - Continued

CALCULATED CHARACTERISTICS OF A ROTOR HAVING RECTANGULAR BLADES WITH A LINEAR TWIST OF 0°

(v) $\frac{V}{\Omega R} = 1.2$; $M_{(1.0,90°)} = 0.9$

$\theta_{.75R'}$ deg	λ	$\frac{C'_L}{\sigma}$	$\frac{C'_D}{\sigma}$	$\frac{C_Q}{\sigma}$	$\frac{bC_{Q,D}}{\sigma}$	α_c, deg	a_0, deg	a_1, deg	a_2, deg	a_3, deg	b_1, deg	b_2, deg	b_3, deg
$\frac{C'_L}{\sigma} = 0$													
-4.00	0.0959	0.000087	0.010133	0.003020	0.00900	4.588	-0.804	-6.236	-1.600	-0.403	-1.93	0.500	-0.161
-2.00	0.0481	0.000117	0.008170	0.003820	0.00091	2.300	-0.680	-3.109	-0.836	-0.211	-1.18	0.271	-0.059
-0.	0.	0.000006	0.007036	0.004444	0.00075	0.000	-0.465	0.027	-0.062	-0.001	-0.51	-0.077	-0.021
2.00	-0.0479	0.000410	0.008143	0.003828	0.00107	-2.286	-0.230	3.210	0.732	0.215	0.21	-0.413	0.028
4.00	-0.0956	-0.000070	0.010093	0.003134	0.01035	-4.574	-0.127	6.344	1.499	0.406	0.95	-0.634	0.133
6.00	-0.1445	-0.000304	0.012461	0.003102	0.02186	-6.919	-0.149	8.822	1.956	0.484	1.57	-0.656	0.280
$\frac{C'_L}{\sigma} = 0.01$													
-4.00	0.0996	0.010142	0.009992	0.003079	0.00577	4.781	-0.364	-5.786	-1.432	-0.374	-1.29	0.571	-0.083
-2.00	0.0512	0.009647	0.008141	0.003913	0.00082	2.465	-0.243	-2.739	-0.694	-0.178	-0.65	0.291	-0.017
-0.	0.0031	0.009808	0.007178	0.004375	0.00076	0.168	-0.017	0.403	0.081	0.031	0.03	-0.060	0.021
2.00	-0.0446	0.010373	0.008262	0.003663	0.00139	-2.111	0.217	3.613	0.886	0.250	0.78	-0.382	0.081
4.00	-0.0918	0.009989	0.010305	0.003170	0.01462	-4.372	0.325	6.800	1.662	0.428	1.61	-0.564	0.210
6.00	-0.1395	0.009670	0.012825	0.003520	0.02813	-6.661	0.316	9.489	2.172	0.486	2.36	-0.599	0.359
$\frac{C'_L}{\sigma} = 0.02$													
-4.00	0.1030	0.019902	0.009984	0.003102	0.00340	4.968	0.089	-5.317	-1.259	-0.341	-0.70	0.592	-0.028
-2.00	0.0545	0.020016	0.008213	0.003936	0.00078	2.645	0.221	-2.321	-0.537	-0.144	-0.07	0.316	0.036
-0.	0.0063	0.019726	0.007473	0.004169	0.00078	0.339	0.429	0.794	0.226	0.064	0.57	-0.041	0.067
2.00	-0.0413	0.020237	0.008527	0.003406	0.00299	-1.934	0.662	4.027	1.039	0.284	1.34	-0.353	0.136
4.00	-0.0878	0.020017	0.010669	0.003255	0.01987	-4.159	0.765	7.273	1.816	0.440	2.29	-0.479	0.296
6.00	-0.1344	0.019891	0.013420	0.003973	0.03393	-6.397	0.774	10.092	2.354	0.479	3.18	-0.497	0.452

TABLE 3. - Continued

CALCULATED CHARACTERISTICS OF A ROTOR HAVING RECTANGULAR BLADES WITH A LINEAR TWIST OF 0°

(v) $\frac{V}{\Omega R} = 1.2$; $M_{(1.0, 90°)} = 0.9$ - Concluded

$\theta_{.75R}$, deg	λ	$\frac{C'_L}{\sigma}$	$\frac{C'_D}{\sigma}$	$\frac{C_Q}{\sigma}$	$\frac{bC_{Q,D}}{\sigma}$	α_c, deg	a_0, deg	a_1, deg	a_2, deg	a_3, deg	b_1, deg	b_2, deg	b_3, deg
$\frac{C'_L}{\sigma} = 0.03$													
-4.00	0.1073	0.030007	0.010241	0.003028	0.00096	5.192	0.547	-4.541	-0.996	-0.296	-0.07	0.520	0.029
-2.00	0.0579	0.030218	0.008451	0.003828	0.00076	2.828	0.686	-1.871	-0.381	-0.111	0.49	0.316	0.085
-0.	0.0096	0.029834	0.007884	0.003860	0.00082	0.516	0.886	1.214	0.375	0.097	1.13	-0.031	0.116
2.00	-0.0379	0.030035	0.008929	0.003124	0.00512	-1.751	1.110	4.466	1.193	0.318	1.92	-0.326	0.196
4.00	-0.0835	0.029994	0.011210	0.003393	0.02441	-3.935	1.193	7.755	1.958	0.442	2.99	-0.384	0.387
6.00	-0.1293	0.029975	0.014191	0.004471	0.03948	-6.131	1.233	10.650	2.504	0.467	3.98	-0.393	0.538
$\frac{C'_L}{\sigma} = 0.04$													
-4.00	0.1216	0.040016	0.010789	0.002777	0.00078	5.419	1.006	-3.700	-0.708	-0.242	0.54	0.418	0.072
-2.00	0.0614	0.040142	0.008872	0.003572	0.00075	3.013	1.139	-1.371	-0.222	-0.080	1.03	0.286	0.132
-0.	0.0131	0.040225	0.008457	0.003423	0.00094	0.705	1.352	1.691	0.533	0.133	1.69	-0.032	0.172
2.00	-0.0342	0.040046	0.009508	0.002820	0.00857	-1.553	1.543	4.954	1.351	0.347	2.53	-0.279	0.276
4.00	-0.0788	0.040386	0.011971	0.003604	0.02931	-3.689	1.670	8.275	2.098	0.443	3.73	-0.302	0.473
6.00	-0.1242	0.039832	0.015133	0.004968	0.04509	-5.868	1.692	11.176	2.633	0.455	4.76	-0.295	0.617
$\frac{C'_L}{\sigma} = 0.05$													
-4.00	0.1159	0.050048	0.011623	0.002289	0.00075	5.645	1.466	-2.863	-0.413	-0.179	1.16	0.318	0.112
-2.00	0.0648	0.049634	0.009480	0.003144	0.00076	3.199	1.571	-0.814	-0.050	-0.049	1.54	0.230	0.176
-0.	0.0164	0.049680	0.009134	0.002926	0.00118	0.883	1.791	2.162	0.680	0.165	2.21	-0.058	0.216
2.00	-0.0301	0.050146	0.010282	0.002590	0.01357	-1.337	1.997	5.486	1.510	0.369	3.17	-0.235	0.359
4.00	-0.0743	0.049590	0.012922	0.003837	0.03378	-3.453	2.063	8.763	2.215	0.431	4.42	-0.198	0.565
6.00	-0.1190	0.049575	0.016271	0.005499	0.05092	-5.599	2.152	11.689	2.746	0.441	5.53	-0.200	0.691

TABLE 3. - Continued

CALCULATED CHARACTERISTICS OF A ROTOR HAVING RECTANGULAR BLADES WITH A LINEAR TWIST OF 0°

(w) $\frac{V}{\Omega R} = 1.4$; $M_{(1.0,90^\circ)} = 0.8$

$\theta_{.75R}$, deg	λ	$\frac{C'_L}{\sigma}$	$\frac{C'_D}{\sigma}$	$\frac{C_Q}{\sigma}$	$\frac{bC_{Q,D}}{\sigma}$	α_c, deg	a_0, deg	a_1, deg	a_2, deg	a_3, deg	b_1, deg	b_2, deg	b_3, deg
$\frac{C'_L}{\sigma} = 0$													
-2.00	0.0556	0.000271	0.008062	0.001134	0.00303	2.275	-0.916	-3.724	-1.232	-0.323	-1.68	0.319	-0.095
-1.00	0.0279	0.000413	0.007005	0.002011	0.00078	1.143	-0.801	-1.841	-0.685	-0.171	-1.25	0.057	-0.058
-0.	0.	0.000024	0.006416	0.002465	0.00071	0.000	-0.698	0.001	-0.159	-0.024	-0.88	-0.155	-0.042
1.00	-0.0279	-0.000357	0.006857	0.002142	0.00087	-1.141	-0.579	1.853	0.375	0.127	-0.49	-0.409	-0.028
2.00	-0.0554	-0.000230	0.007832	0.001391	0.00375	-2.269	-0.462	3.767	0.940	0.283	-0.03	-0.620	0.017
3.00	-0.0826	0.000241	0.009162	0.000606	0.01254	-3.384	-0.387	5.694	1.580	0.423	0.49	-0.763	0.101
$\frac{C'_L}{\sigma} = 0.01$													
-2.00	0.0582	0.010275	0.007956	0.001330	0.00179	2.400	-0.470	-3.398	-1.068	-0.280	-1.07	0.391	-0.033
-1.00	0.0306	0.010477	0.006985	0.002112	0.00075	1.266	-0.350	-1.522	-0.523	-0.129	-0.64	0.161	-0.001
-0.	0.0025	0.009519	0.006380	0.002457	0.00072	0.116	-0.257	0.297	-0.007	0.017	-0.31	-0.103	0.005
1.00	-0.0252	0.009704	0.006851	0.002036	0.00100	-1.017	-0.129	2.176	0.540	0.170	0.12	-0.342	0.031
2.00	-0.0527	0.009834	0.007938	0.001132	0.00513	-2.142	-0.014	4.103	1.109	0.326	0.59	-0.543	0.083
3.00	-0.0798	0.009829	0.009331	0.000518	0.01554	-3.252	0.049	6.035	1.662	0.456	1.12	-0.674	0.174
$\frac{C'_L}{\sigma} = 0.02$													
-2.00	0.0608	0.019789	0.007963	0.001426	0.00101	2.518	-0.037	-3.094	-0.912	-0.239	-0.49	0.454	0.022
-1.00	0.0332	0.020403	0.007099	0.002084	0.00072	1.387	0.096	-1.209	-0.363	-0.087	-0.05	0.224	0.054
-0.	0.0053	0.020275	0.006648	0.002240	0.00075	0.247	0.214	0.641	0.166	0.061	0.34	-0.030	0.069
1.00	-0.0225	0.019819	0.007058	0.001766	0.00124	-0.892	0.322	2.507	0.705	0.214	0.73	-0.275	0.092
2.00	-0.0497	0.020413	0.008202	0.000902	0.00774	-2.004	0.456	4.472	1.285	0.369	1.26	-0.457	0.160
3.00	-0.0764	0.020453	0.009669	0.000418	0.02071	-3.101	0.516	6.426	1.833	0.486	1.84	-0.563	0.264

TABLE 3.- Continued

CALCULATED CHARACTERISTICS OF A ROTOR HAVING RECTANGULAR BLADES WITH A LINEAR TWIST OF 0°

(w) $\frac{V}{\Omega R} = 1.4$; $M_{(1.0, 90°)} = 0.8$ - Concluded

$\theta_{.75R}$, deg	λ	$\frac{C'_L}{\sigma}$	$\frac{C'_D}{\sigma}$	$\frac{C_Q}{\sigma}$	$\frac{bC_{Q,D}}{\sigma}$	α_c, deg	a_0, deg	a_1, deg	a_2, deg	a_3, deg	b_1, deg	b_2, deg	b_3, deg
$\frac{C'_L}{\sigma} = 0.03$													
-2.00	0.0635	0.029842	0.008046	0.001470	0.00086	2.642	0.415	-2.764	-0.747	-0.196	0.12	0.519	0.082
-1.00	0.0358	0.030222	0.007285	0.001980	0.00071	1.508	0.538	-0.893	-0.208	-0.045	0.54	0.280	0.109
-0.	0.0080	0.030237	0.006977	0.001956	0.00078	0.370	0.662	0.968	0.323	0.104	0.93	0.025	0.126
1.00	-0.0197	0.030241	0.007449	0.001372	0.00217	-0.761	0.783	2.868	0.873	0.258	1.36	-0.207	0.161
2.00	-0.0468	0.030160	0.005590	0.000587	0.01065	-1.873	0.877	4.832	1.442	0.405	1.87	-0.372	0.240
3.00	-0.0733	0.029966	0.010118	0.000347	0.02458	-2.957	0.929	6.790	1.977	0.506	2.49	-0.456	0.352
$\frac{C'_L}{\sigma} = 0.04$													
-2.00	0.0662	0.039795	0.008262	0.001409	0.00079	2.770	0.871	-2.409	-0.586	-0.154	0.72	0.567	0.142
-1.00	0.0385	0.040260	0.007595	0.001769	0.00071	1.634	0.992	-0.546	-0.053	-0.004	1.13	0.326	0.168
-0.	0.0105	0.039637	0.007392	0.001607	0.00084	0.489	1.096	1.293	0.467	0.144	1.48	0.063	0.179
1.00	-0.0169	0.039879	0.007938	0.000946	0.00345	-0.635	1.224	3.217	1.024	0.300	1.94	-0.158	0.224
2.00	-0.0438	0.039957	0.009111	0.000318	0.01451	-1.734	1.323	5.209	1.596	0.439	2.51	-0.295	0.320
3.00	-0.0697	0.040064	0.010784	0.000307	0.02880	-2.794	1.362	7.195	2.122	0.518	3.20	-0.331	0.455
$\frac{C'_L}{\sigma} = 0.05$													
0.	0.0134	0.049966	0.007985	0.001099	0.00098	0.623	1.554	1.683	0.623	0.185	2.08	0.104	0.249
1.00	-0.0139	0.050108	0.008601	0.000403	0.00527	-0.497	1.682	3.621	1.185	0.342	2.56	-0.101	0.304
2.00	-0.0403	0.050423	0.009849	0.000041	0.01991	-1.576	1.784	5.642	1.753	0.464	3.21	-0.197	0.420
3.00	-0.0659	0.050175	0.011620	0.000306	0.03316	-2.625	1.823	7.601	2.256	0.528	3.92	-0.224	0.545

TABLE 3.- Continued

CALCULATED CHARACTERISTICS OF A ROTOR HAVING RECTANGULAR BLADES WITH A LINEAR TWIST OF 0°

(x) $\frac{V}{\Omega R} = 1.4$; $M_{(1.0, 90°)} = 0.9$

$\theta_{.75R}$, deg	λ	$\frac{C'_L}{\sigma}$	$\frac{C'_D}{\sigma}$	$\frac{C_Q}{\sigma}$	$\frac{bC_{Q,D}}{\sigma}$	α_c, deg	a_0, deg	a_1, deg	a_2, deg	a_3, deg	b_1, deg	b_2, deg	b_3, deg
$\frac{C'_L}{\sigma} = 0$													
-2.00	0.0550	-0.000183	0.011045	0.003937	0.00286	2.253	-0.776	-3.702	-1.198	-0.327	-1.56	0.354	-0.083
-1.00	0.0275	-0.000242	0.009910	0.004752	0.00079	1.127	-0.473	-1.843	-0.659	-0.172	-1.12	0.126	-0.051
-0.	0.	0.000035	0.009253	0.005187	0.00071	0.000	-0.550	0.002	-0.127	-0.020	-0.69	-0.123	-0.034
1.00	-0.0275	0.000267	0.009779	0.004861	0.00086	-1.126	-0.423	1.853	0.410	0.135	-0.26	-0.371	-0.017
2.00	-0.0551	-0.000460	0.010841	0.004161	0.00335	-2.256	-0.334	3.712	0.952	0.292	0.17	-0.604	0.010
3.00	-0.0821	0.000002	0.012278	0.003545	0.01266	-3.362	-0.261	5.619	1.506	0.435	0.70	-0.751	0.090
$\frac{C'_L}{\sigma} = 0.01$													
-2.00	0.0578	0.010477	0.010916	0.004134	0.00170	2.382	-0.311	-3.351	-1.020	-0.280	-0.90	0.435	-0.012
-1.00	0.0301	0.009713	0.009888	0.004834	0.00075	1.246	-0.225	-1.526	-0.496	-0.128	-0.52	0.187	0.004
-0.	0.0026	0.010295	0.009281	0.005141	0.00072	0.122	-0.090	0.326	0.040	0.025	-0.07	-0.060	0.022
1.00	-0.0250	0.010211	0.009817	0.004737	0.00099	-1.007	0.025	2.173	0.574	0.180	0.35	-0.309	0.040
2.00	-0.0524	0.009671	0.010981	0.003974	0.00495	-2.131	0.117	4.053	1.124	0.337	0.80	-0.527	0.078
3.00	-0.0791	0.010024	0.012514	0.003495	0.01651	-3.227	0.175	5.982	1.677	0.468	1.37	-0.645	0.176
$\frac{C'_L}{\sigma} = 0.02$													
-2.00	0.0662	0.019757	0.010914	0.004207	0.00104	2.492	0.116	-3.053	-0.866	-0.238	-0.33	0.491	0.039
-1.00	0.0326	0.019725	0.009992	0.004802	0.00073	1.364	0.226	-1.208	-0.333	-0.083	0.09	0.247	0.059
-0.	0.0052	0.020382	0.009547	0.004539	0.00075	0.241	0.364	0.649	0.204	0.070	0.53	-0.001	0.078
1.00	-0.0225	0.019669	0.010046	0.004487	0.00121	-0.893	0.459	2.484	0.729	0.224	0.92	-0.255	0.093
2.00	-0.0496	0.019669	0.011272	0.003723	0.00747	-2.002	0.568	4.411	1.296	0.381	1.44	-0.446	0.153
3.00	-0.0759	0.020446	0.012926	0.003484	0.02127	-3.073	0.627	6.374	1.846	0.496	2.09	-0.529	0.270

TABLE 3. - Concluded

CALCULATED CHARACTERISTICS OF A ROTOR HAVING RECTANGULAR BLADES WITH A LINEAR TWIST OF 0°

(x) $\frac{V}{\Omega R} = 1.4 \cdot M_{(1.0, 90°)} = 0.9$ - Concluded

$\theta_{.75R}$, deg	λ	$\frac{C'_L}{\sigma}$	$\frac{C'_D}{\sigma}$	$\frac{C_Q}{\sigma}$	$\frac{bC_{Q,D}}{\sigma}$	α_c, deg	a_0, deg	a_1, deg	a_2, deg	a_3, deg	b_1, deg	b_2, deg	b_3, deg
$\frac{C'_L}{\sigma} = 0.03$													
-2.00	0.0628	0.029744	0.010992	0.004232	0.00086	2.615	0.969	-2.719	-0.700	-0.193	0.28	0.551	0.096
-1.00	0.0332	0.030264	0.010192	0.004681	0.00071	1.490	0.692	-0.863	-0.164	-0.038	0.72	0.310	0.122
-0.	0.0077	0.030331	0.009906	0.004652	0.00077	0.361	0.013	0.979	0.361	0.114	1.13	0.050	0.135
$\frac{C'_L}{\sigma} = 0.04$													
1.00	-0.0171	0.039843	0.010999	0.003661	0.00313	-0.041	1.368	3.203	1.053	0.315	2.14	-0.144	0.225
2.00	-0.0436	0.040013	0.012313	0.003239	0.01567	-1.727	1.450	5.183	1.621	0.452	2.75	-0.267	0.328
3.00	-0.0692	0.040064	0.014207	0.003592	0.02951	-2.775	1.485	7.149	2.136	0.526	3.48	-0.297	0.460
$\frac{C'_L}{\sigma} = 0.05$													
0.	0.0130	0.049773	0.010973	0.003804	0.00099	0.605	1.707	1.692	0.659	0.199	2.27	0.113	0.251
1.00	-0.0141	0.050181	0.011709	0.003126	0.00525	-0.504	1.828	3.616	1.219	0.358	2.78	-0.086	0.308
2.00	-0.0403	0.049961	0.013077	0.003074	0.02043	-1.577	1.886	5.596	1.769	0.473	3.43	-0.169	0.425
3.00	-0.0654	0.050313	0.015176	0.003707	0.03403	-2.604	1.954	7.566	2.274	0.534	4.22	-0.185	0.554